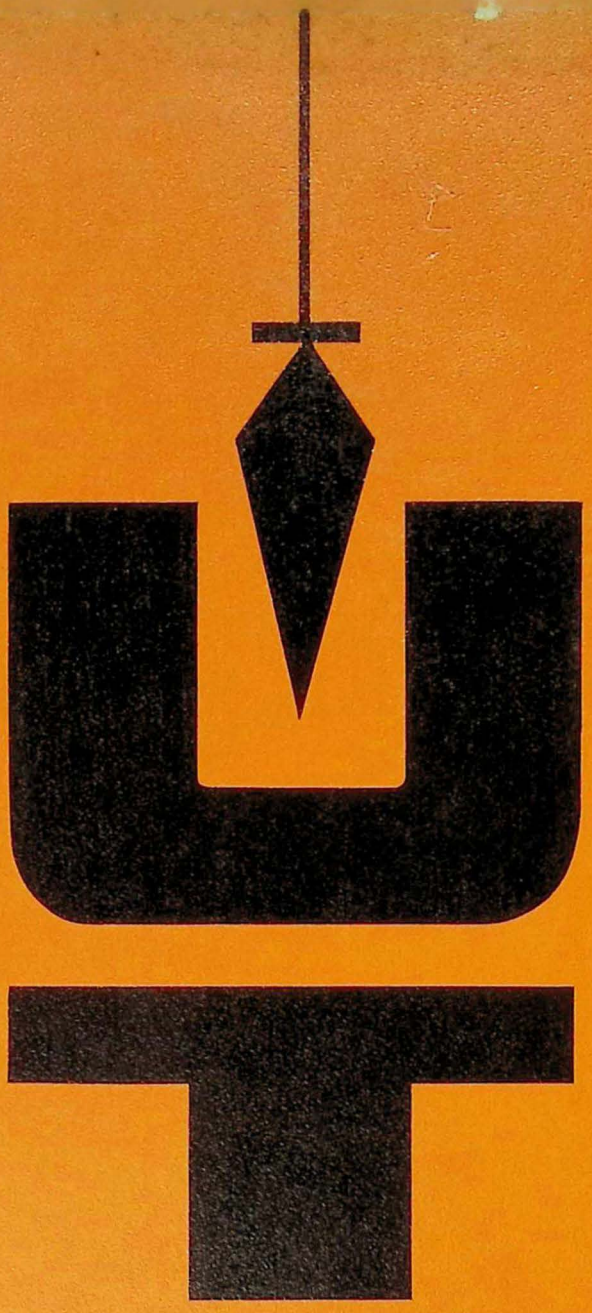


# UNION TOOL COMPANY

ORANGE, MASSACHUSETTS 01364 U.S.A.

MACHINISTS' TOOLS • CARPENTERS' TOOLS

**UNION TOOL COMPANY**
**ORANGE, MASSACHUSETTS 01364**

**Phone**
**Area Code 617**
**544-2532**
**544-2533**

# MACHINIST AND CARPENTERS TOOLS

**Combined 1969 Catalog**

**MAKERS OF MACHINIST TOOLS OF THE FINEST QUALITY SINCE 1908**

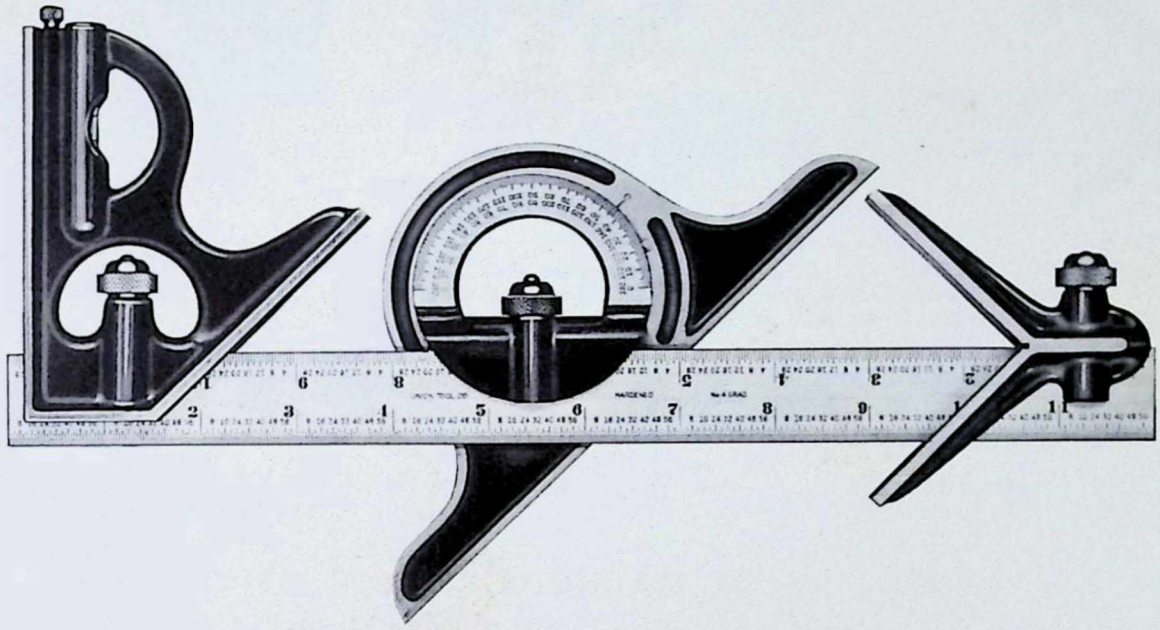
## OUR 61ST ANNIVERSARY

### WARRANTY

Every tool stamped with the Union Tool Co. name is warranted free from imperfections and defects in material or workmanship. Our obligation under this warranty is expressly limited to the following: If any tool proves to be imperfect or defective under conditions of normal use, we agree to repair or replace the tool, if immediately returned to our factory at Orange, Massachusetts, transportation charges prepaid. Under no circumstances, however, do we assume responsiblity for breakage where flaws do not appear or for tools which have suffered from abusive treatment or which have been stamped with the owner's name, changed or experimented upon.

# MACHINISTS COMBINATION SETS • SQUARES

## MACHINISTS COMBINATION SETS
## — CAST IRON SERIES —



Basic sets for toolmakers and machinists consisting of square and miter head, center head, and bevel protractor, made of hard gray iron. Blade full hardened and tempered. Etched graduations and figures. Double indexed protractor graduated 180 degrees in both directions. All cast iron parts finished with durable black japan. Meets Fed. Spec. Type VI, Class A.

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| **209-34** | 9″ | # 4 | 1½ lbs. |
| **209-36** | 9″ | #16 | 1½ lbs. |
| **212-34** | 12″ | # 4 | 2 lbs. |
| **212-36** | 12″ | #16 | 2 lbs. |
| **218-34** | 18″ | # 4 | 2¼ lbs. |
| **218-36** | 18″ | #16 | 2¼ lbs. |
| **224-34** | 24″ | # 4 | 2½ lbs. |

PACKED 1 IN A BOX

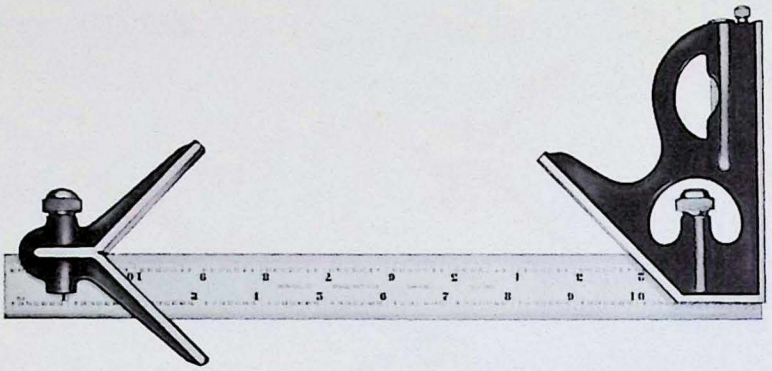
***Numbering System for Sets and Squares**

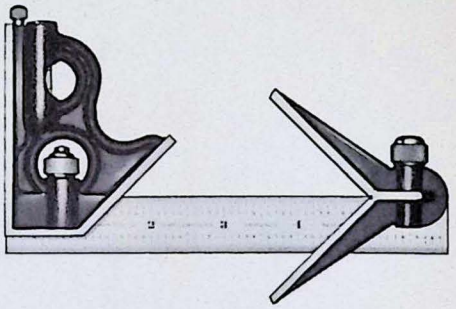
**First** digit—Machinists. **Second** and **third** digits—Blade length. **Fourth** digit—Components; e. g. 1—Square only, 2—Square with Center Head, 3—Set. **Fifth** digit—Graduation, (4 is #4, 6 is #16).

**Graduations:**

**No. 4** One face 8ths and 16ths, One face 32nd and 64ths.
**No. 16** One face 32nds and 64ths, One face 50ths and 100ths.

# MACHINISTS COMBINATION SQUARES



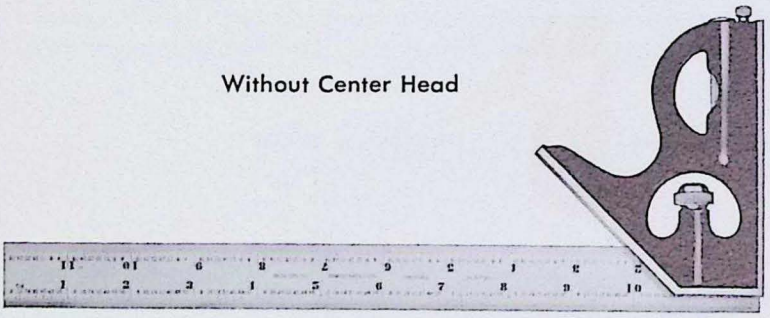


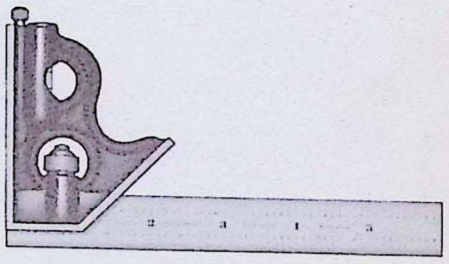
Cast hard gray iron square head and center head with black japan finish. Full hardened and tempered steel blade with etched graduations. Full bedded level vial with double, black hair-lines and cats'eye filler. Meets Fed. Spec. Type VI, Class A.

PACKED 1 IN A BOX

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| **204-24** | 4″ | # 4 | ½ lb. |
| **204-26** | 4″ | #16 | ½ lb. |
| **206-24** | 6″ | # 4 | ½ lb. |
| **206-26** | 6″ | #16 | ½ lb. |
| **209-24** | 9″ | # 4 | ¾ lb. |
| **209-26** | 9″ | #16 | ¾ lb. |
| **212-24** | 12″ | # 4 | 1⅛ lbs. |
| **212-26** | 12″ | #16 | 1⅛ lbs. |
| **218-24** | 18″ | # 4 | 1⅜ lbs. |
| **218-26** | 18″ | #16 | 1⅜ lbs. |
| **224-24** | 24″ | # 4 | 2 lbs. |

Without Center Head





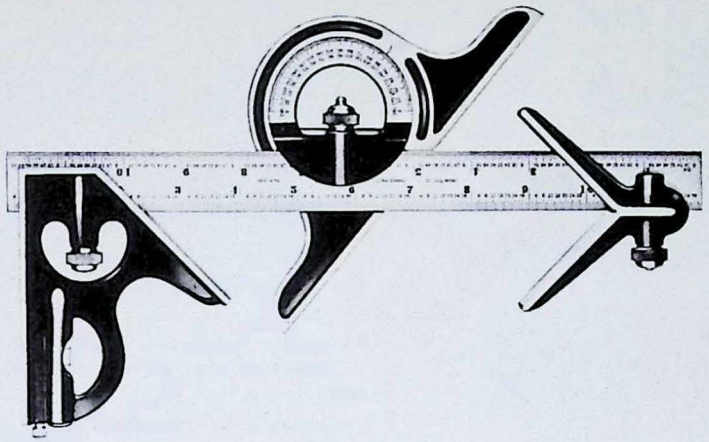
Cast hard gray iron square and miter head with black japan finish. Full hardened and tempered steel blade with etched graduations and double inch figures. Quick reading figures on fine graduations. Meets Fed. Spec. Type VI, Class A.

PACKED 1 IN A BOX

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| **204-14** | 4″ | # 4 | ⅜ lb. |
| **204-16** | 4″ | #16 | ⅜ lb. |
| **206-14** | 6″ | # 4 | ⅜ lb. |
| **206-16** | 6″ | #16 | ⅜ lb. |
| **209-14** | 9″ | # 4 | ⅝ lb. |
| **209-16** | 9″ | #16 | ⅝ lb. |
| **212-14** | 12″ | # 4 | ¾ lb. |
| **212-16** | 12″ | #16 | ¾ lb. |
| **218-14** | 18″ | # 4 | 1 lb. |
| **218-16** | 18″ | #16 | 1 lb. |
| **224-14** | 24″ | # 4 | 1¾ lbs. |

# MACHINISTS COMBINATION SETS • SQUARES

**FULLY HARDENED SERIES**



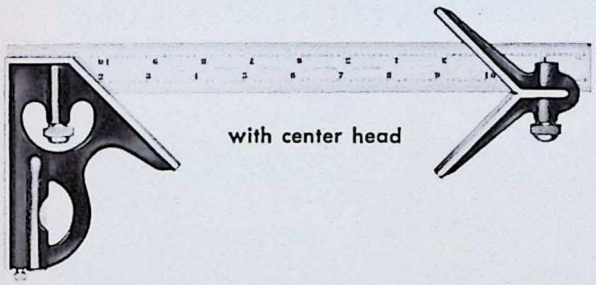
**AVAILABLE SPRING 1969**

*New - Hardened -*

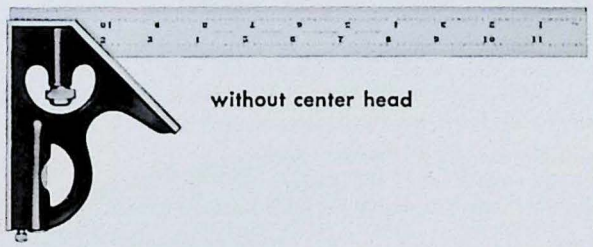
Best set for machinists and tool makers. Square head, center head, fully hardened. Blade is hardened steel. Etched graduations on blade and protractor. Black japan finish on steel parts. Double inch, quick reading figures on blades meets Fed. Spec. Type VI, Class B.

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| **112-34** | 12″ | # 4 | 2 lbs. |
| **112-36** | 12″ | #16 | 2 lbs. |
| **118-34** | 18″ | # 4 | 2¼ lbs. |
| **118-36** | 18″ | #16 | 2¼ lbs. |
| **124-34** | 24″ | # 4 | 2½ lbs. |

PACKED 1 IN A BOX



with center head



without center head

Square head and center head fully hardened. Black japan finish on steel parts. Blade is hardened steel. Etched graduations; and double inch, quick reading figures on blades. Meets Federal Specification Type VI, Class B.

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| **112-24** | 12″ | # 4 | 1⅛ lbs. |
| **112-26** | 12″ | #16 | 1⅛ lbs. |
| **118-24** | 18″ | # 4 | 1⅜ lbs. |
| **118-26** | 18″ | #16 | 1⅜ lbs. |
| **124-24** | 24″ | # 4 | 2 lbs. |

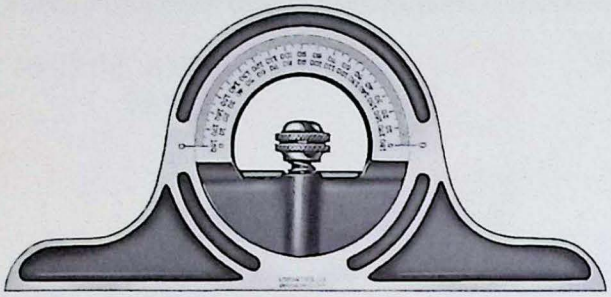
PACKED 1 IN A BOX

Squares have hardened heads with black japan finish. Blade is hardened steel with etched graduations. Double inch, quick reading figures on blade. Meets Federal Specification Type VI, Class B.

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| **112-14** | 12″ | # 4 | ¾ lb. |
| **112-16** | 12″ | #16 | ¾ lb. |
| **118-14** | 18″ | # 4 | 1 lb. |
| **118-16** | 18″ | #16 | 1 lb. |
| **124-14** | 24″ | # 4 | 1¾ lbs. |

PACKED 1 IN A BOX

## No. 225 BEVEL PROTRACTOR

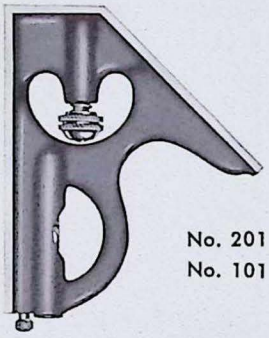


Double indexed protractor graduated 180 degrees in both directions can be read from either index. Body has wide base for support when used with blade in vertical position. Wide base facilitates use as depth gauge and inclinometer. Level vial has steel guard.

PACKED 1 IN A BOX SHIPPING WEIGHT: 1 LB.

## MACHINISTS SQUARE HEADS

No. 200

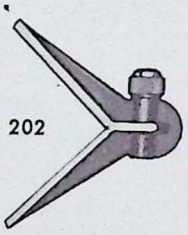


No. 201
No. 101

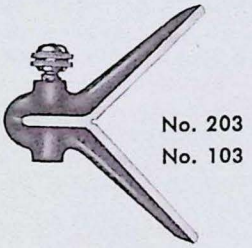
Hard gray iron heads with durable black japan finish. Steel parts, brass scriber bushing, and cats-eye level vial. All working surfaces precision ground and tested.

**No. 200** For 4", 6" Blades
**No. 201** For 9", 12", 18" and 24" Blades
**No. 101** Fully hardened for 9", 12", 18" and 24" Blades

## MACHINISTS CENTER HEADS



No. 202

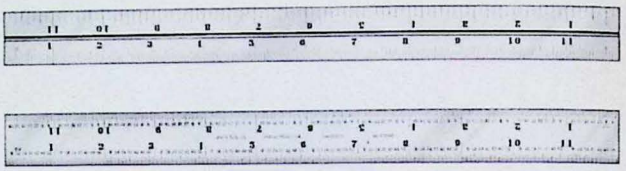


No. 203
No. 103

Hard gray iron body with black japan finish. Steel parts. Precision tested.

**No. 202** For 4", 6" Blades
**No. 203** For 9", 12", 18" and 24" Blades
**No. 103** Fully hardened for 9", 12", 18" and 24" Blades

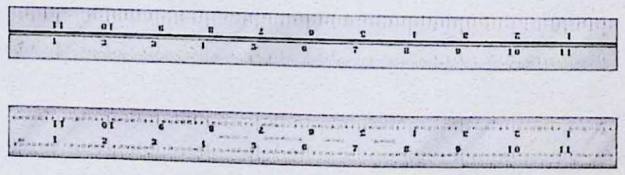
## MACHINISTS SQUARE BLADES



Full hardened and tempered tool steel blades suitable for use as straight edge. Machine subdivided. Acid etched black figures and graduations. Double inch figures. Quick reading figures on fine graduations. Non-reflecting satin brushed finish.

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| 204-4 | 4" | # 4 | 1/8 lb. |
| 204-6 | 4" | #16 | 1/8 lb. |
| 206-4 | 6" | # 4 | 1/8 lb. |
| 206-6 | 6" | #16 | 1/8 lb. |
| 209-4 | 9" | # 4 | 1/8 lb. |
| 209-6 | 9" | #16 | 1/8 lb. |
| 212-4 | 12" | # 4 | 1/4 lb. |
| 212-6 | 12" | #16 | 1/4 lb. |
| 218-4 | 18" | # 4 | 1/2 lb. |
| 218-6 | 18" | #16 | 1/2 lb. |
| 224-4 | 24" | # 4 | 5/8 lb. |

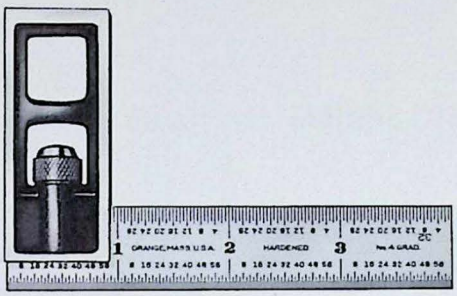
## CHROME MACHINISTS SQUARE BLADES



Full hardened and tempered tool steel blades suitable for use as straight edge. Machine subdivided. Acid etched. Double inch figures. Quick reading figures on fine graduations. Non-reflecting Satin Chrome finish with black graduations and figures.

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| 204C-4 | 4" | # 4 | 1/8 lb. |
| 204C-6 | 4" | #16 | 1/8 lb. |
| 206C-4 | 6" | # 4 | 1/8 lb. |
| 206C-6 | 6" | #16 | 1/8 lb. |
| 212C-4 | 12" | # 4 | 1/4 lb. |
| 212C-6 | 12" | #16 | 1/4 lb. |

## MACHINISTS DOUBLE SQUARE

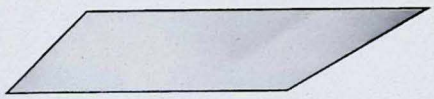


Precision ground hard gray iron casting. Full hardened and tempered steel blade with etched graduations. Used as double square for checking inside and outside squareness. Can be used as a parallel. Interchangeable bevel and drill point blades available for use with head.

| NUMBER | BLADE | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| 625-44 | 4" | # 4 | ¼ lb. |
| 625-46 | 4" | #16 | ¼ lb. |
| 625-64 | 6" | # 4 | ⅜ lb. |
| 625-66 | 6" | #16 | ⅜ lb. |

PACKED 1 IN A BOX

## BEVEL BLADE



Full hardened and tempered tool steel bevel blade used for laying out hexagonals and octagonals.

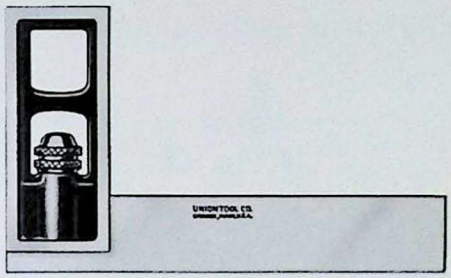
| NUMBER | SHIPPING WEIGHT |
|---|---|
| 625B — Bevel Blade | 1/16 lb. |

## DRILL POINT BLADE

Full hardened and tempered tool steel drill point gauge, precision ground to 59 degree angle.

| NUMBER | SHIPPING WEIGHT |
|---|---|
| 625D — Drill Point Blade | 1/16 lb. |

## MACHINISTS DOUBLE ADJUSTABLE TRY SQUARE

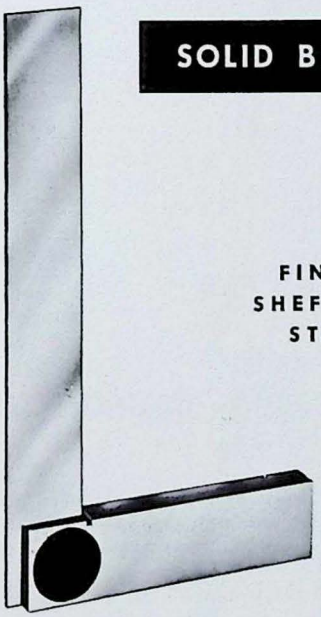


A precision, double adjustable square for testing inside and outside squareness. Head is precision ground hard gray iron with all sides parallel. Blade is full hardened and tempered and is not graduated.

| NUMBER | BLADE | SHIPPING WEIGHT |
|---|---|---|
| 625-40 | 4" | ¼ lb. |

PACKED 1 IN A BOX

## SOLID BEAM SQUARES



FINEST
SHEFFIELD
STEEL

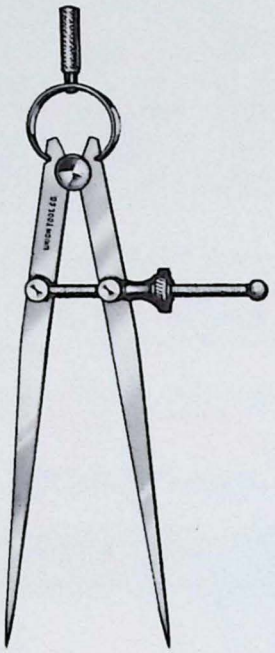
## No. 240 SOLID BEAM SQUARES

A low priced workshop grade of engineers try square for layout and testing work. Blade and beam are ground and lapped for straightness and parallelism. Length of blade is measured from inner edge of beam to end of blade. A complete set can be bought for less than the price of one competitive square. Made in England.

| NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 240-4 | 4" | ½ lb. |
| 240-6 | 6" | ¾ lb. |
| 240-9 | 9" | 1½ lbs. |
| 240-12 | 12" | 2½ lbs. |

PACKED 1 IN A BOX

# SPRING DIVIDERS • SPRING CALIPERS



## No. 10 SPRING DIVIDERS

Fully hardened and tempered joints springs, washers, and divider points. High carbon steel legs deeply heat treated for lifetime service. Brushed, natural steel finish. Each divider supplied with a plastic point protector. Meets Fed. Spec. Type A, Class 2.

| CATALOG NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 10 | 2″ | ¼ lb. |
| 10 | 3″ | ¼ lb. |
| 10 | 4″ | ½ lb. |
| 10 | 5″ | ½ lb. |
| 10 | 6″ | ⅞ lb. |
| 10 | 8″ | 1 lb. |
| 10 | 10″ | 1½ lbs. |

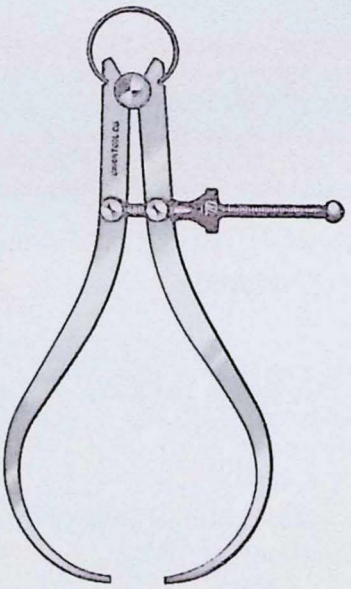
PACKED 3 IN A BOX;
10″ SIZE PACKED 1 PER BOX.

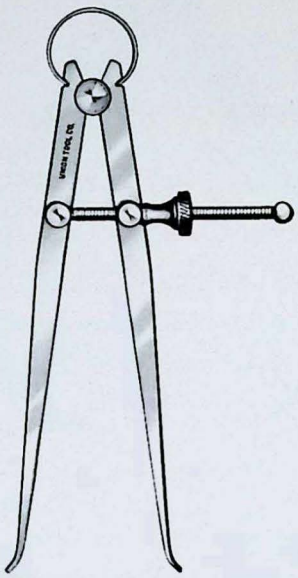
## No. 12 OUTSIDE SPRING CALIPERS

Brushed, natural steel finish. Fully hardened and tempered joints, springs, and washers. Ends fully rounded to give accurate contact with work. Meets Fed. Spec. Type II, Class 1.

| CATALOG NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 12 | 2″ | ¼ lb. |
| 12 | 3″ | ¼ lb. |
| 12 | 4″ | ½ lb. |
| 12 | 5″ | ½ lb. |
| 12 | 6″ | ⅞ lb. |
| 12 | 8″ | 1 lb. |

ALL PACKED 3 IN A BOX





## No. 14 INSIDE SPRING CALIPERS

Fully hardened and tempered joints, springs, and washers. Brushed, natural steel finish. Ends fully rounded to give accurate contact with work. Meets Fed. Spec. Type 1, Class 1.

| CATALOG NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 14 | 2" | ¼ lb. |
| 14 | 3" | ¼ lb. |
| 14 | 4" | ½ lb. |
| 14 | 5" | ½ lb. |
| 14 | 6" | ⅞ lb. |
| 14 | 8" | 1 lb. |

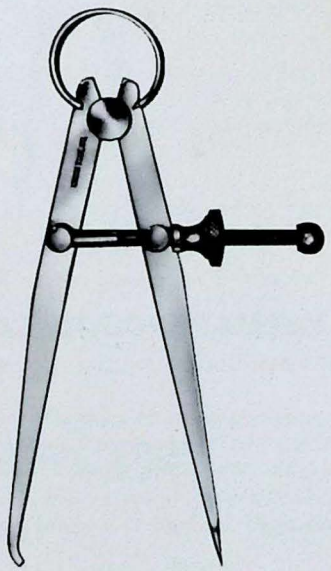
ALL PACKED 3 IN A BOX

## No. 8 SPRING HERMAPHRODITE CALIPERS

Fully hardened and tempered joints, springs, and washers. Brushed, natural steel finish. Ends fully rounded to give accurate contact with work. Divider leg hardened.

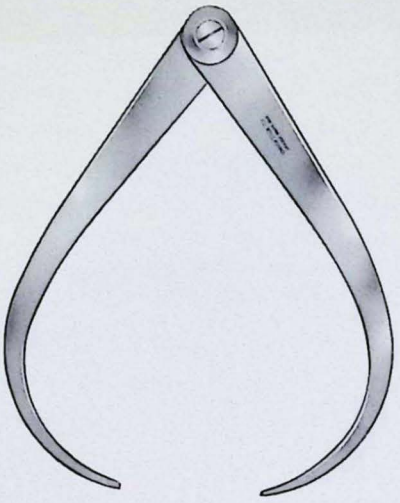
| CATALOG NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 8 | 4" | ½ lb. |
| 8 | 6" | ⅞ lb. |
| 8 | 8" | 1 lb. |

ALL PACKED 3 IN A BOX



## FIRM JOINT CALIPERS

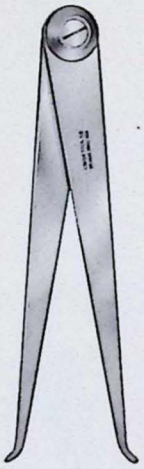
### No. 15 OUTSIDE FIRM JOINT CALIPERS



Polished and brushed flat legs with round edges and tips. High quality steel legs. Screw slotted head tensioning joint permits adjustment to needs of user. Tension after adjustment remains constant with usage. Meets Fed. Spec. Type II, Class 4.

| CATALOG NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 15 | 4" | 3/8 lb. |
| 15 | 6" | 1/2 lb. |
| 15 | 8" | 1 lb. |

ALL PACKED 3 IN A BOX



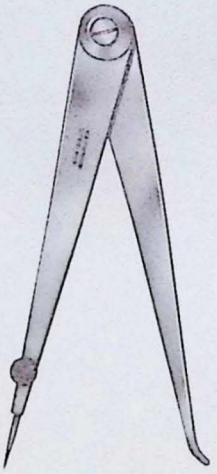
### No. 17 INSIDE FIRM JOINT CALIPERS

Polished and brushed flat legs with round edges and tips. High quality steel legs. Screw slotted head tensioning joint permits adjustment to needs of user. Tension after adjustment remains constant with usage. Meets Fed. Spec. Type I, Class 4.

| CATALOG NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 17 | 4" | 3/8 lb. |
| 17 | 6" | 1/2 lb. |
| 17 | 8" | 1 lb. |

ALL PACKED 3 IN A BOX

### No. 19 HERMAPHRODITE CALIPERS



Same quality construction as Numbers 15 and 17 firm joint calipers. One leg has full hardened scribing point held in adjusting assembly. Meets Fed. Spec. Type III.

| CATALOG NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 19 | 4" | 3/8 lb. |
| 19 | 6" | 1/2 lb. |
| 19 | 8" | 1 lb. |

ALL PACKED 3 IN A BOX

# STEEL RULES • HOOK RULES • SLIDE CALIPER RULES

Union Tool Company rules are made to the highest standards of the American Precision Tool Industry. These precision scales are machine divided, acid etched, and precision ground. They are finished to the most critical tolerances. For example: the six inch rules, overall length will not vary by more than plus 0.004" or minus 0.002"; scale error between any two graduations shall not vary more than 0.002" per foot; the out of parallel error of opposite edges is less than .002"; the out of square error of the ground ends are less than 0.0005".

Our special etching techniques produce an extremely fine graduation line which insures an accuracy which is lost with the many heavy, wide graduation lines found on many competitive products.

When precision counts, your choice should be a Union Tool Co. rule.

**GRADUATIONS**

**No. 3** One face 32nds and 64ths, One face 10ths and 50ths

**No. 4** One face 8ths and 16ths, One face 32nds and 64ths

**No. 5** One face 10ths and 100ths, One face 32nds and 64ths

**No. 7** One face 16ths and 100ths, One face 64ths and 32nds

**No. 10** Two edges only, 32nds and 64ths

**No. 11** Two edges only, 64ths and 100ths

**No. 16** One face 32nds and 64ths, One face 50ths and 100ths

## No. 405 MACHINISTS RULES

Spring tempered, tool steel, precision ground rules. Machine subdivided, acid etched graduations. Satin brushed finish. Meets Federal Spec. Type IV, Class 1.

| NUMBER | LENGTH | WIDTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|---|
| 405 | 1" | ½" | #4 | 1 oz. |
| 405 | 2" | ½" | #4 | 1 oz. |
| 405 | 3" | ⅝" | "4 | 1 oz. |
| 405 | 4" | ⅝" | #4 | 1 oz. |
| 405 | 6" | ¾" | #4, #7, #16 | 1 oz. |
| 405 | 12" | 1" | #4, #16 | 3 oz. |
| 405 | 18" | 1" | #4, #16 | 5 oz. |
| 405 | 24" | 1" | #4, #16 | 6 oz. |

PACKED 1 IN AN ENVELOPE, 18" AND 24" 1 IN A BOX

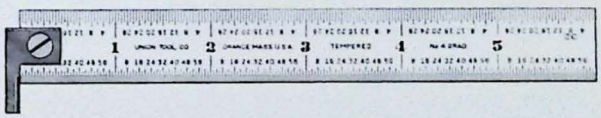
## CHROME RULES

Same as above, but with satin chrome finish with sharp clear, black graduations and figures.

| NUMBER | LENGTH | WIDTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|---|
| 405C | 6" | ¾" | #4 | 1 oz. |
| 405C | 12" | 1" | #4 | 3 oz. |

PACKED 1 IN AN ENVELOPE

## No. 401 HOOK RULES



Spring tempered, tool steel precision ground rules. Machine cut graduations. Quick reading figures on fine graduations. Deep case hardened hook rigidly held by eccentric stud.

| NUMBER | LENGTH | WIDTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|---|
| 401 | 6" | ¾" | #4, #16 | 2 oz. |
| 401 | 12" | 1" | #4, #16 | 3 oz. |
| 401 | 18" | 1⅛" | #4, #16 | ½ lb. |
| 401 | 24" | 1¼" | #4, #16 | ½ lb. |

PACKED 1 IN AN ENVELOPE, 18" AND 24" 1 IN A BOX

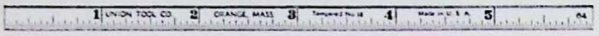
## CHROME HOOK RULES

Same as above, but with satin chrome finish with sharp clear, black graduations and figures. Black hook.

| NUMBER | LENGTH | WIDTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|---|
| 401C | 6" | ¾" | #4 | 1 oz. |
| 401C | 12" | 1" | #4 | 3 oz. |

PACKED 1 IN AN ENVELOPE

## No. 430 NARROW RULES

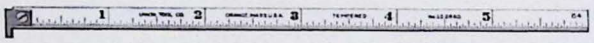


Spring tempered, tool steel, precision ground rule. Machine cut graduations.

| NUMBER | LENGTH | WIDTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|---|
| 430 | 6" | 7/32" | #10, #11 | 1 oz. |

PACKED 1 IN AN ENVELOPE

## No. 431 NARROW HOOK RULES

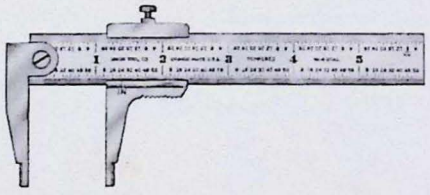


Spring tempered, tool steel, precision ground stiff rules. Machine cut graduations. Deep case hardened hook rigidly held by eccentric stud.

| NUMBER | LENGTH | WIDTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|---|
| 431 | 6" | 7/32" | #10, #11 | 1 oz. |

PACKED 1 IN AN ENVELOPE

## No. 453 SLIDE CALIPER RULES

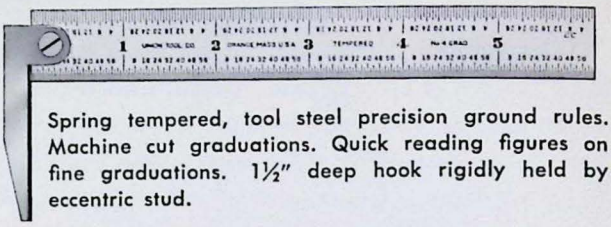


For fast and accurate inside or outside measurements. Smooth acting spring tensioned slide has mill-grooved thumb grip for positive one-hand "snap gauge" operation. Spring tempered high carbon steel blade carefully ground and lapped for parallelism. Quick reading figures on fine graduations. Zero line on slide for accurate inside measurements. Depth of Jaws: 1½".

| NUMBER | LENGTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|
| 453 | 6" | #4, #16 | ⅛ lb. |

PACKED 1 IN A BOX

## No. 402 DEEP HOOK RULES *New*

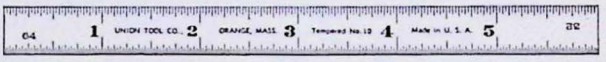


Spring tempered, tool steel precision ground rules. Machine cut graduations. Quick reading figures on fine graduations. 1½" deep hook rigidly held by eccentric stud.

| NUMBER | LENGTH | WIDTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|---|
| 402 | 6" | ¾" | #4, #16 | 2 oz. |

# FLEXIBLE RULES

## No. 420 FLEXIBLE RULES



Full flexible tempered rule steel .015" thick. Precision ground. Machine subdivided, acid etched graduations. Satin brushed finish. Grraduated one face only.

| NUMBER | LENGTH | WIDTH | GRADUATION | SHIPPING WEIGHT |
|---|---|---|---|---|
| 420 | 6" | ½" | #10 | 1 oz. |

PACKED 1 IN AN ENVELOPE

## No. 425 FLEXIBLE RULES

Full flexible, tempered, rule steel. Precision ground. Machine subdivided acid etched graduations. Satin brushed finish. Quick reading figures on fine graduation face.

| NO. | LENGTH | WIDTH | THICK. | GRAD. | SHIPPING WEIGHT |
|---|---|---|---|---|---|
| 425 | 6" | ½" | .015" | # 4 | 1 oz. |
| 425 | 12" | ½" | .015" | # 4 | 1 oz. |
| 425 | 18" | ¾" | .022" | # 4 | 1 oz. |

## CHROME RULES

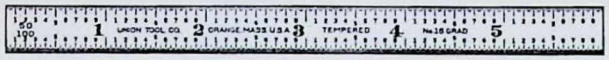
Same as above, but with satin chrome finish with sharp, clear, black graduations and figures.

| NO. | LENGTH | WIDTH | THICK. | GRAD. | SHIPPING WEIGHT |
|---|---|---|---|---|---|
| 425C | 6" | ½" | .015" | # 4 | 1 oz. |
| 425C | 12" | ½" | .015" | # 4 | 1 oz. |
| 425C | 18" | ¾" | .022" | # 4 | 1 oz. |

PACKED 1 IN AN ENVELOPE

# FLEXIBLE RULES

## No. 426 FLEXIBLE RULES



Same rules as No. 425, but with No. 16 Graduations.

| NO. | LENGTH | WIDTH | THICK. | GRAD. | SHIPPING WEIGHT |
|---|---|---|---|---|---|
| 426 | 6" | ½" | .015" | #16 | 1 oz. |
| 426 | 12" | ½" | .015" | #16 | 1 oz. |
| 426 | 18" | ¾" | .022" | #16 | 1 oz. |

## CHROME RULES

Same as No. 426, but with satin chrome finish.

| NO. | LENGTH | WIDTH | THICK. | GRAD. | SHIPPING WEIGHT |
|---|---|---|---|---|---|
| 426C | 6" | ½" | .015" | #16 | 1 oz. |
| 426C | 12" | ½" | .015" | #16 | 1 oz. |
| 426C | 18" | ¾" | .022" | #16 | 1 oz. |

PACKED 1 IN AN ENVELOPE

## No. 426S FLEXIBLE RULE

Same rules as No. 426 and 426C, but with No. 3 Graduations.

| NO. | LENGTH | WIDTH | THICK. | GRAD. | SHIPPING WEIGHT |
|---|---|---|---|---|---|
| 426S | 6" | ½" | .015" | # 3 | 1 oz. |

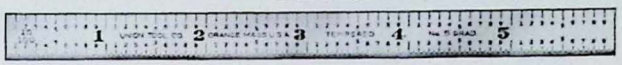
## No. 426SC FLEXIBLE CHROME RULE

| NO. | LENGTH | WIDTH | THICK. | GRAD. | SHIPPING WEIGHT |
|---|---|---|---|---|---|
| 426SC | 6" | ½" | .015" | # 3 | 1 oz. |

PACKED 1 IN AN ENVELOPE

## No. 423 FLEXIBLE RULE

One Face



Other Face

All purpose graduation, precision rule. Standard 32nds and 64ths on one face, 10ths and 100ths, for fine work on other face. Full flexible, tempered rule steel. Master precision ground, satin brushed finish, quick reading figures on all graduations. Packed one per envelope.

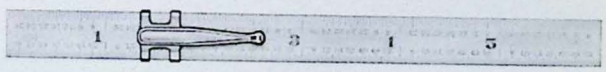
## CHROME RULE

Same as No. 423, but with satin chrome finish.

| NO. | LENGTH | WIDTH | THICK. | GRAD. | SHIPPING WEIGHT |
|---|---|---|---|---|---|
| 423C | 6" | ½" | .015" | #5 | 1 oz. |

## No. 427 POCKET CLIPS —

For 6" Flexible rules.

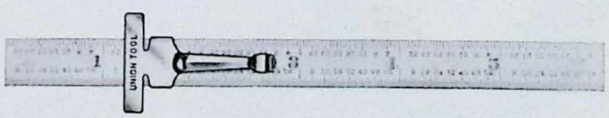


## No. 428 LEATHERETTE CASES —

For 6" Flexible rules.

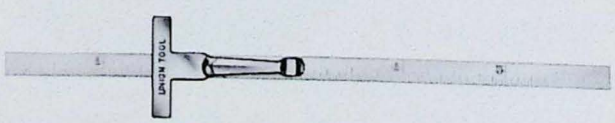
## No. 429 DEPTH GAUGE POCKET CLIPS —

For 6" Flexible rules.




## No. 432 DEPTH GAUGE POCKET CLIPS —

For 6" Narrow rules.



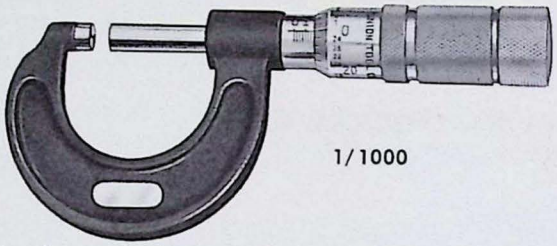
# MICROMETER FEATURES

Union Micrometers are designed for lasting accuracy, convenience, and smooth operation. Here are precision built micrometers of superior craftsmanship and tool room accuracy made in the United States of America.

The forged steel frames are designed for balance and will withstand years of hard usage. The one piece spindle and screw are made of the finest, triple-tested, tool steel. Spindles are individually lapped and fitted into each micrometer. A special lapping process of the anvils, and the one piece spindle and screw, provide squareness and parallelism.

Where supplied, the friction thimble provides one hand friction control throughout the entire measuring range. The knurled section of the thimbles are proportioned such that one can use direct feel or friction stop control. The thimble and barrel are of generous proportion, allowing extra space between graduations for easier reading. All Thousandths graduations are numbered and can be read directly.

## No. 801 MICROMETER



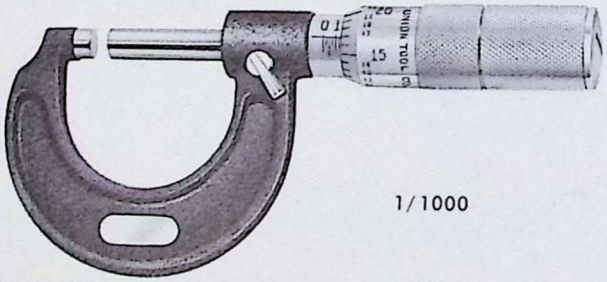
1/1000

Satin chrome finish on thimble and barrel. Forged steel frame with enameled finish. Case No. 870 available.

Range: 0"-1" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅜ LB.

## No. 811 MICROMETER



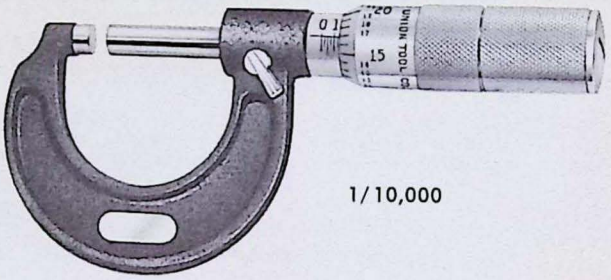
1/1000

Friction thimble and locknut. Forged steel I beam frame with baked enamel finish. Satin chrome finish on thimble and barrel. Case No. 870 available.

Range: 0"-1" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅜ LB.

## No. 819 MICROMETER



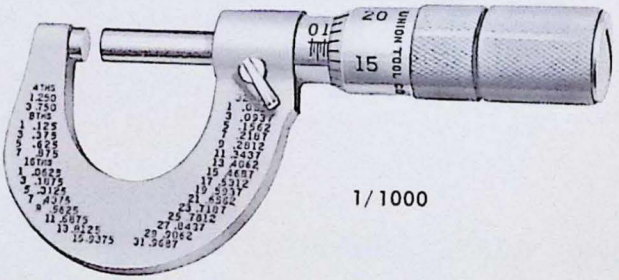
1/10,000

Friction thimble and locknut. Satin chrome finish. Same as No. 811 but measuring in 1/10,000. Case No. 870 available.

Range: 0"-1" Graduations: .0001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅜ LB.

## No. 821C MICROMETER



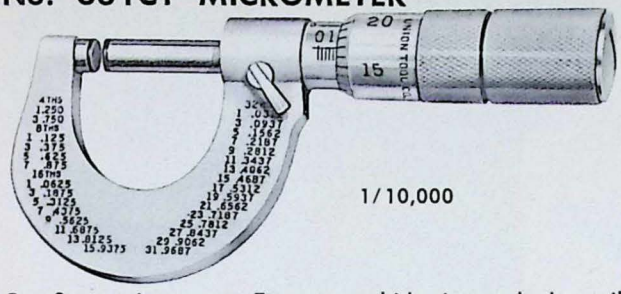
1/1000

Satin chrome finish. Forged steel frame. Stamped with table of decimal equivalents. Friction thimble and locknut. Case No. 870 available.

Range: 0"-1" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅜ LB.

## No. 831CT MICROMETER



1/10,000

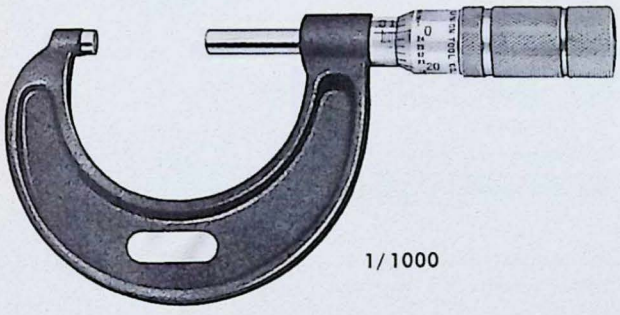
Our finest micrometer. Tungsten-carbide tips on both anvil and spindle faces. Friction thimble and locknut. Satin chrome plate. Case No. 870 available.

Range: 0"-1" Graduations: .0001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅜ LB.

## OUTSIDE MICROMETERS
### TWO INCH

## No. 802 MICROMETER



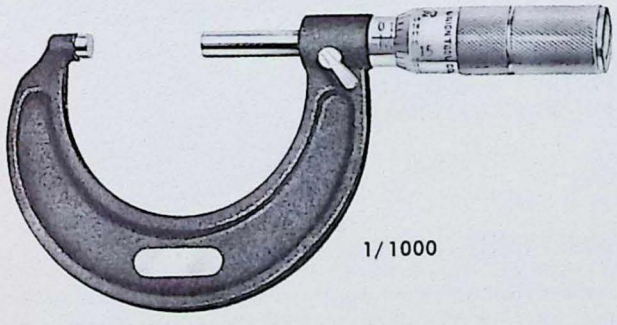
1/1000

Forged steel frame with enameled finish. Satin chrome finish on thimble and barrel. Case No. 871 available.

Range: 1"-2" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ¾ LB.

## No. 812 MICROMETER



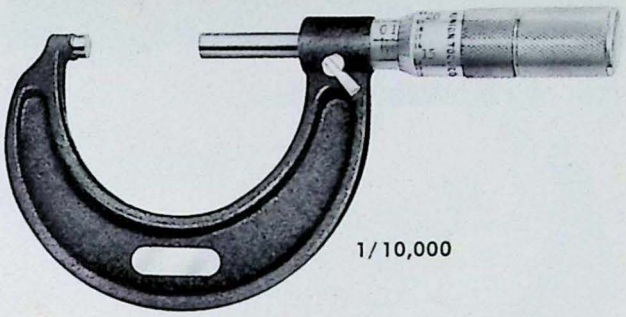
1/1000

Forged steel frame with enamel finish. Satin chrome finish on barrel and thimble. Friction thimble and locknut. Case No. 871 available.

Range: 1"-2" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ¾ LB.

## No. 820 MICROMETER



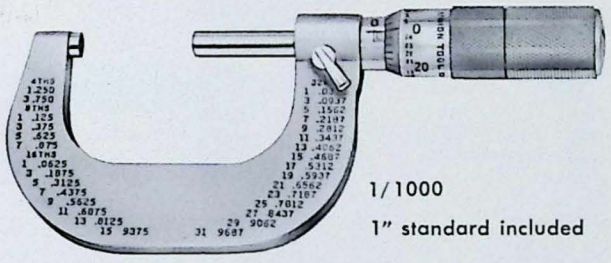
1/10,000

Forged steel frame with black enameled finish. Friction thimble and locknut. Same as No. 812, but measuring in 1/10,000. Case No. 871 available.

Range: 1"-2" Graduations: .0001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅝ LB.

## No. 822C MICROMETER



1/1000

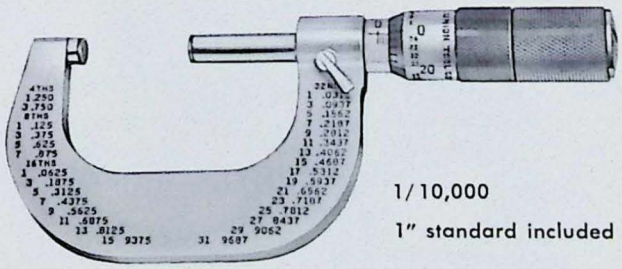
1" standard included

Satin chrome finish. Forged steel frame. Stamped with table of decimal equivalents. Friction thimble and locknut. Case No. 872 available.

Range: 1"-2" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅝ LB.

## No. 832CT MICROMETER



1/10,000

1" standard included

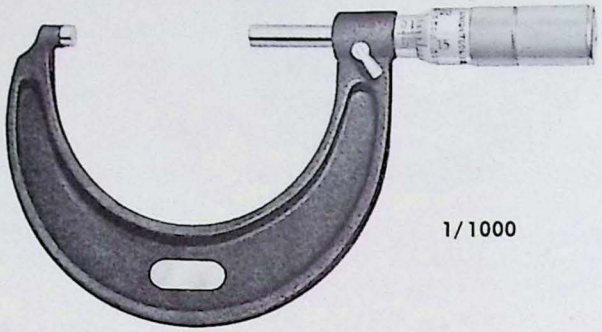
A new addition of our finest micrometer. Tungsten-carbide tips. Friction thimble and locknut. Satin chrome plate. Decimal equivalents on frame. Case No. 872 available.

Range: 1"-2" Graduations: .0001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅝ LB.

## OUTSIDE MICROMETERS
THREE AND FOUR INCH

### No. 813 MICROMETER



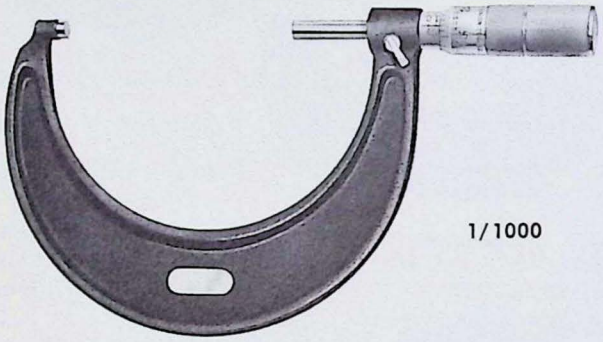
1/1000

Friction thimble and locknut. Enameled forged steel frame. Satin chrome thimble and barrel. Case No. 873 available.

Range: 2"-3" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ¾ LB.

### No. 814 MICROMETER



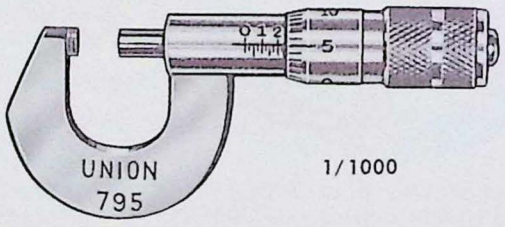
1/1000

Friction thimble and locknut. Satin chrome finish. Baked enamel finish on I beam frame. Case No. 874 available.

Range: 3"-4" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅞ LB.

### No. 795 HALF INCH MICROMETER



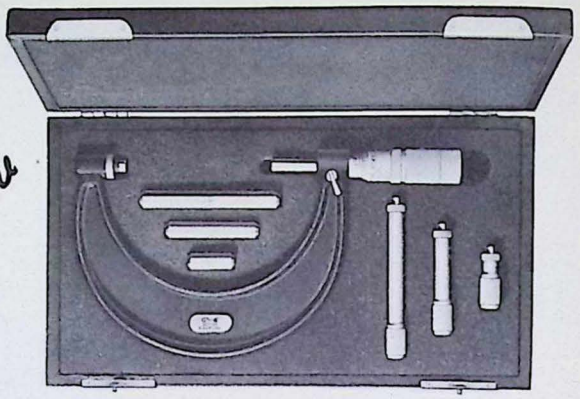

1/1000

A surprisingly accurate micrometer for hobbyist or home use. Measures 0"½" in 1/1000. Satin chrome finish. Flat anvils for general outside use. Accurate to 1/1000".

PACKED 1 IN A BOX. SHIPPING WEIGHT: ⅛ LB.

### No. 824 RANGE MICROMETER

New

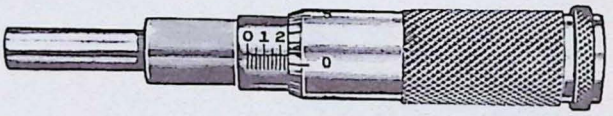


One micrometer that can do the work of four. Three interchangeable extensions, individually adjustable, enable one to measure any item from 0" to 4". Crowned face on anvil prevents gagging. Complete with three standards. Satin chrome finish, forged I beam frame, friction thimble and lock nut. Supplied in fitted leatherette case.

Range: 0"-4" Graduations: .001"

PACKED 1 IN A BOX. SHIPPING WEIGHT: 2¼ LBS.

### No. 800 MICROMETER HEAD 1/1000




For use on special gauges and machinery where precision measurements are required. Satin chrome finish.

Range: 0"-1" Graduations: .001"

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅜ LB.

### No. 563 MICROMETER STANDARDS

Test gauges of finest quality alloy steel. Hardened, lapped parallel.

**No. 563-1**" checks zero of 1"-2"
**No. 563-2**" checks zero of 2"-3"
**No. 563-3**" checks zero of 3"-4"

### MICROMETER CASES

Foam lined, leatherette covered cases for maximum protection. Number of appropriate case listed under each micrometer model.

## DEPTH MICROMETERS

### No. 833 DEPTH MICROMETER — 2½″ BASE

1/1000

For accurate measurement of depth of holes, slots, shoulders, and projections. Measures by 1/1000. Three measuring rods give 0″-3″ capacity. Satin chrome finish. Base measures 7/16″ x 2½″. Furnished complete with fitted leatherette covered wood case.

SHIPPING WEIGHT: 1 LB.

### No. 833-2S DEPTH MICROMETER

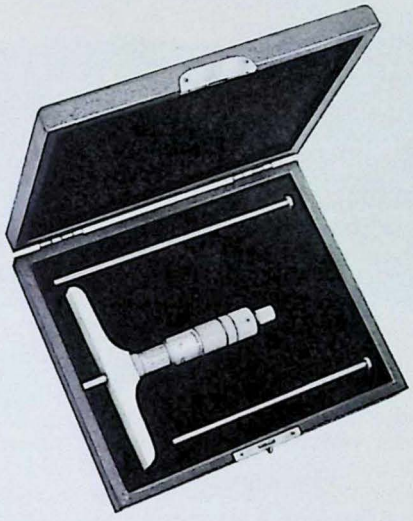
1/1000

Same features as No. 833 plus extra rods giving a capacity of 0″-6″. Measures by 1/1000. Furnished in fitted leatherette covered wood case.

SHIPPING WEIGHT: 1½ LBS.

## DEPTH MICROMETERS

### No. 834 DEPTH MICROMETER — 4″ BASE



Same as No. 833, but with 4″ long base. Range 0″-3″. Measures by 1/1000. Furnished in fitted leatherette covered wood case.

SHIPPING WEIGHT: 1 LB.

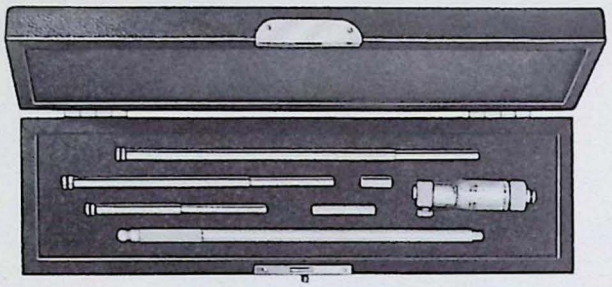
### No. 834-2S DEPTH MICROMETER

Same features as No. 834 plus extra rods giving a capacity of 0″-6″. Measures by 1/1000. Furnished in fitted leatherette covered wood case.

SHIPPING WEIGHT: 1½ LBS.

## INSIDE MICROMETERS

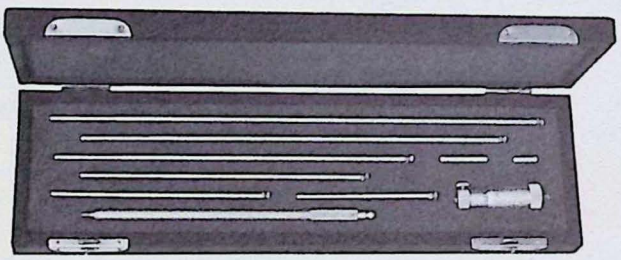
### No. 836 INSIDE MICROMETER 1/1000



Satin chrome finish. Measures 2"-8". Graduated in .001". Furnished with 4 measuring rods, spacing collars and extension handle in fitted leatherette covered wood case.

SHIPPING WEIGHT: ¾ LB.

### No. 837 INSIDE MICROMETER 1/1000

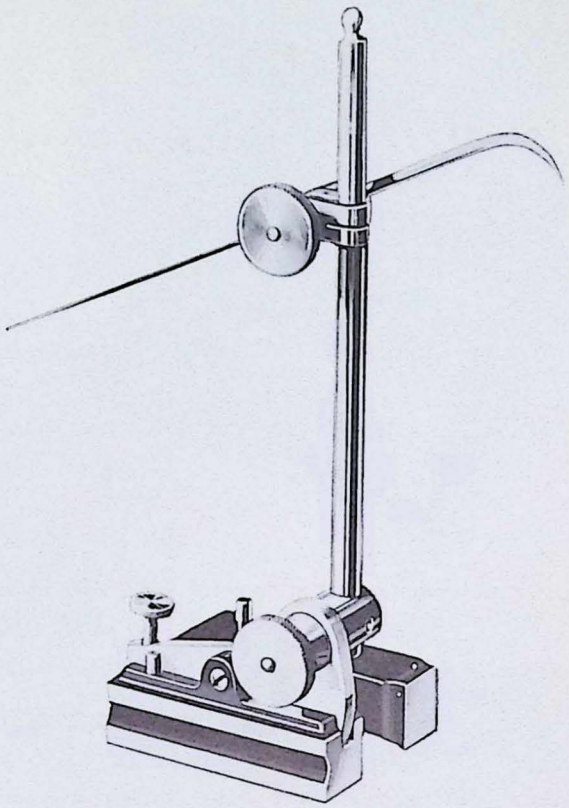


Satin chrome finish. Measures 2"-12½". Graduated in .001". Furnished with 7 measuring rods, spacing collars and extension handle, in fitted leatherette covered wood case.

SHIPPING WEIGHT: 1 LB.

## SURFACE GAUGE

### No. 850 SURFACE GAUGE

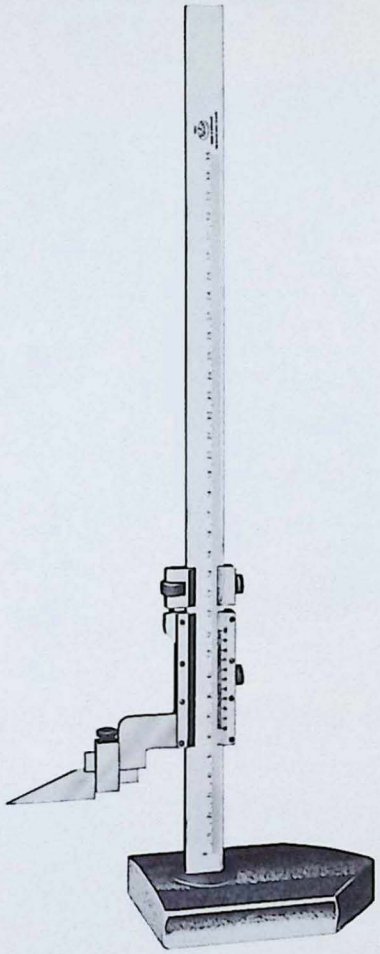


Carefully ground base, 3"x2½"x⅞" has V-groove for mounting on round work. Retractable pins in base for linear work. Scriber head has spring control. When gauge is used with dial indicator, hardened steel scriber may be removed. Fine adjustment of spindle to any angle above or below base. Spindle has marker on lower end for use as scratch gauge. 9" Spindle.

PACKED 1 IN A BOX SHIPPING WEIGHT: 2¼ LBS.

## VERNIER HEIGHT GAUGE

### No. 280 VERNIER HEIGHT GAUGE



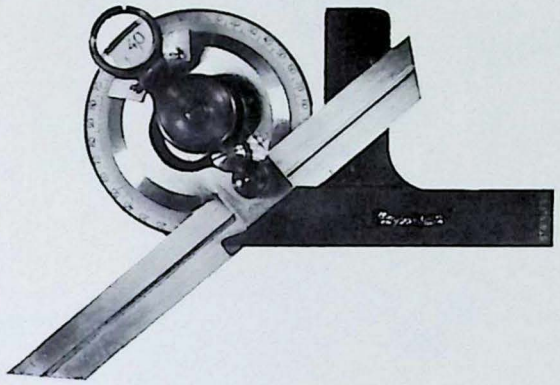
A fine precision tool with an extra large vernier scale which is adjustable for wear. All parts are hardened, ground and lapped for extreme accuracy. Extra heavy base insures stability. Beam and measuring parts are made of stainless steel. 0"-9" range. Made in W. Germany.

PACKED IN FITTED WOOD CASE

SHIPPING WEIGHT: 6 LBS.

## UNIVERSAL BEVEL PROTRACTOR

### No. 260 UNIVERSAL BEVEL PROTRACTOR

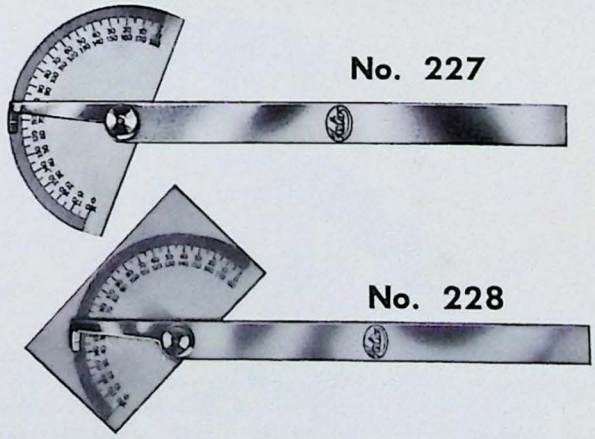


A precision protractor providing vernier reading in 5 minutes of arc. Back of protractor is flat and can be laid flat on paper or work. Protractor dial is graduated over 360° in 0-90' sectors and rotates full circle. A built in detachable magnifier is standard. Furnished with six inch blade. A 12" blade is available as an accessory. All stainless steel with satin chrome reading surfaces. Made in West Germany.

PACKED IN FITTED WOOD CASE.

| NUMBER | | SHIPPING WEIGHT |
|---|---|---|
| **260** | Bevel Protractor | 1⅞ lbs. |
| **260-12"** | Blade only | |

## LAYOUT PROTRACTORS



**No. 227**

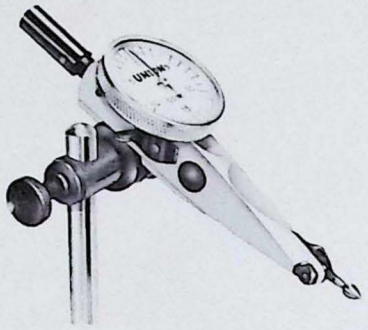
**No. 228**

Useful tool for machinist, draftsman, and mechanic. Measures 0-180°. Double graduations allow reading angle and supplementary angle directly. Six inch rule can be locked in position with locking nut. No projections on back. Made of chrome steel with satin chrome finish. Made in W. Germany.

PACKED 1 IN A BOX SHIPPING WEIGHT: ¼ LB.

# DIAL INDICATORS

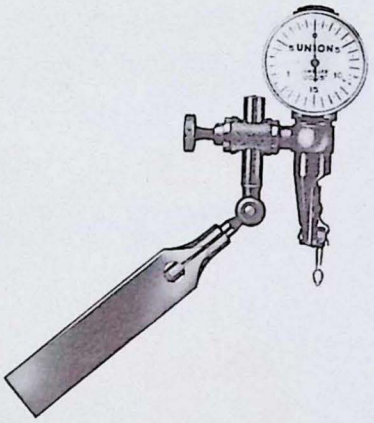
## No. 892 DIAL TEST INDICATOR



A rugged indicator for precision layout work, inspection, indicating, etc., at a moderate price. Quality construction assures long life and accuracy. Unique pear shaped contact point is hardened for wear and gives accurate indication in all positions. Contact point ratchets through 180 degrees. Side mounted level reverses indicator. Dial rotates for any zero setting. Furnished complete with dovetail clamp, universal holder, and spare point, in fitted plastic case.

| NO. | DIAL DIAMETER | READING | GRADUATED | RANGE |
|---|---|---|---|---|
| 892 | 1" | .0005" | 0-15-0 | .030" |

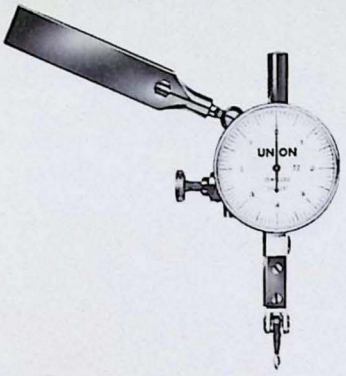
## No. 893 DIAL TEST INDICATOR



A jewelled movement providing durability, smoothness and unmatched "repeatability." Tubular body swivels within body clamp. Unique pear shaped and hardened contact point ratchets a full 180 degrees. Fully reversible. Dial rotates for zero setting. Furnished complete with universal holder, body clamp, and spare point, in fitted metal jewel case as shown in illustration of No. 898.

| NO. | DIAL DIAMETER | READING | GRADUATED | RANGE |
|---|---|---|---|---|
| 893 | 1" | .0005" | 0-15-0 | .030" |

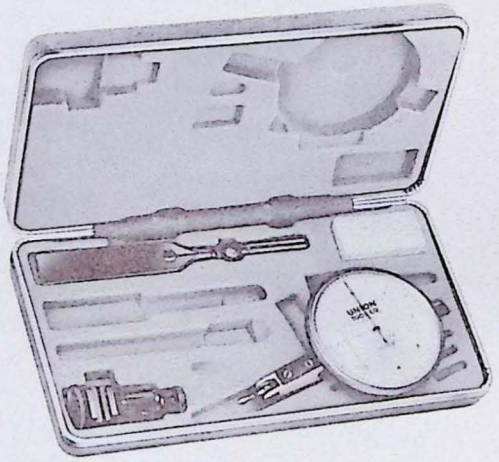
## No. 897 DIAL TEST INDICATOR



An extra sensitive, fully jewelled, indicator reading in .0001". **Fully reversible without a reversing lever.** Indicator hand travels in one direction under all conditions. Contact point is mounted in ball bearing pivot which is spring mounted to absorb any heavy side shocks. Pear shaped point ratchets full 180 degrees. Dial rotates for zero setting. Furnished complete with dovetail clamp, universal holder, and spare point, in fitted metal jewel case as shown with No. 898.

| NO. | DIAL DIAMETER | READING | GRADUATED | RANGE |
|---|---|---|---|---|
| 897 | 1⅜" | .0001" | 0-4-0 | .008" |

## No. 898 DIAL TEST INDICATOR

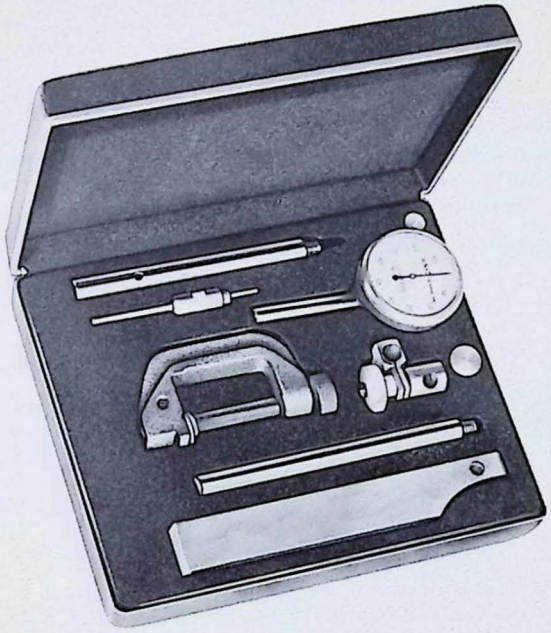


A super-sensitive, jewelled indicator reading in .00005". Pear shaped contact point is ball bearing mounted and spring loaded to absorb side shock. **Fully reversible without a reversing lever.** Hand always reads in one direction. Contact point ratchets full 180 degrees. Rotating dial for zero setting. Furnished complete with dovetail clamp, universal holder, and spare point, in fitted metal jewel case.

| NO. | DIAL DIAMETER | READING | GRADUATED | RANGE |
|---|---|---|---|---|
| 898 | 2" | .00005" | 0-4-0 | .008" |

# UNIVERSAL DIAL TEST INDICATOR SET

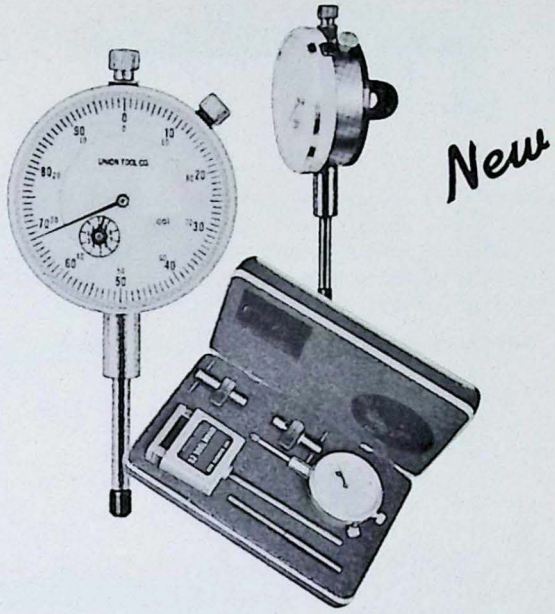
## No. 891 UNIVERSAL DIAL TEST INDICATOR SET



The Union Universal Dial Test Indicator Set is a precision made, jewelled indicator for use where extremely accurate determinations are needed. A rear mounted plunger or an end mounted indicator point provide universal application. It is graduated in increments of .001" and reads 0-50-0, giving a 0.200" range. The range with the end type indicator point, is .125". Zero setting is by means of a rotating bezel. The set consists of: dial test indicator; two contact points; end indicator point with guide and cap; 8" sectional rod; attaching clamp; universal rod connector; tool post holder. The complete set is furnished in a fitted metal case.

| NO. | DIAL DIAMETER | READING | GRADUATED | RANGE |
|---|---|---|---|---|
| 891 | 1½" | .001" | 0-50-0 | .200" |

## No. 890 ONE INCH DIAL INDICATOR SET WITH MAGNETIC BASE

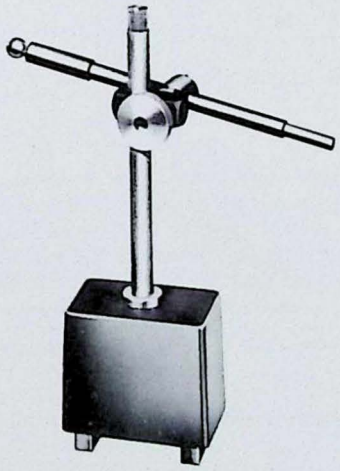


New

A very accurate 1" range indicator with large 2¼" diameter dial. Dial is continuous with revolution counter. Dial can be rotated and locked for zero setting. Complete with magnetic base, packaged in fitted steel case.

| NO. | DIAL DIAM. | READING | GRADUATED | RANGE |
|---|---|---|---|---|
| 890 | 2¼" | .001" | 0-1" | 0-1" |

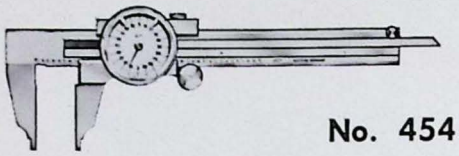
## No. 889 MAGNETIC BASE INDICATOR HOLDER



This Magnetic base indicator holder with rod connector and two-diameter rod is an excellent accessory for any of our dial indicators. Magnetic base grips to flat and curved surface. Steel post is 5/16" diameter and 3¾" long. Overall height is 6".

PACKED 1 IN A BOX SHIPPING WEIGHT: 1 LB.

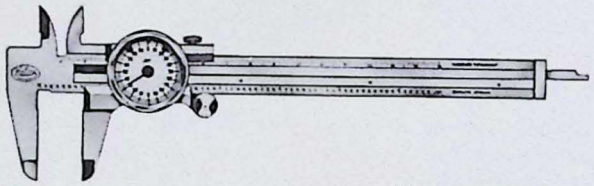
## DIAL CALIPERS



### No. 454

Stainless steel. Measuring surfaces hardened, ground and lapped. Satin chrome finish on reading surfaces. INSIDE, OUTSIDE, and DEPTH reading directly in .001" on the dial. Adjustable dial and tolerance rings. Accurate to plus or minus .001". Range, 0"-4".

PACKED IN LEATHER CASE SHIPPING WEIGHT: ½ LB.

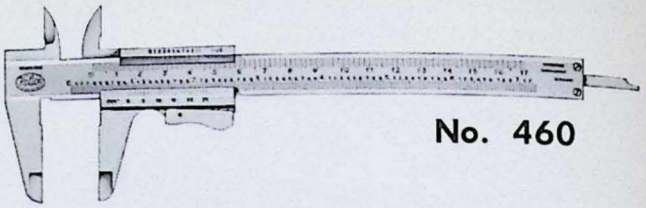


### No. 456

Hardened stainless steel contruction. Satin chrome finish on reading surfaces. INSIDE, OUTSIDE, and DEPTH readings directly on the dial, in .001". Adjustable dial and tolerance rings. Accurate to plus or minus .001". Range, 0"-6".

PACKED IN LEATHER CASE SHIPPING WEIGHT: ½ LB.

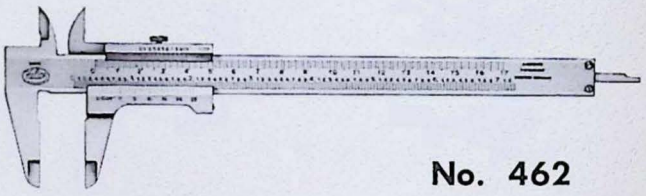
## VERNIER CALIPERS



### No. 460

Measuring surfaces are hardened, ground and lapped for long service. Stainless steel construction with chrome finish. Vernier scales of .001" and 1/20 mm. OUTSIDE, INSIDE, and DEPTH measurement read directly on extra long vernier. Spring thumblock. 0"-6" range.

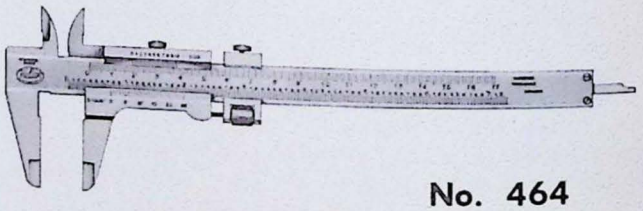
PACKED IN LEATHER CASE SHIPPING WEIGHT: ½ LB.



### No. 462

Hardened stainless steel construction. Satin chrome finish on all reading surfaces. OUTSIDE, INSIDE, and DEPTH readings in .001" or 1/20 mm. All measurements read direct on large vernier. Single Set Screw. 0"-6" range.

PACKED IN LEATHER CASE SHIPPING WEIGHT: ½ LB.



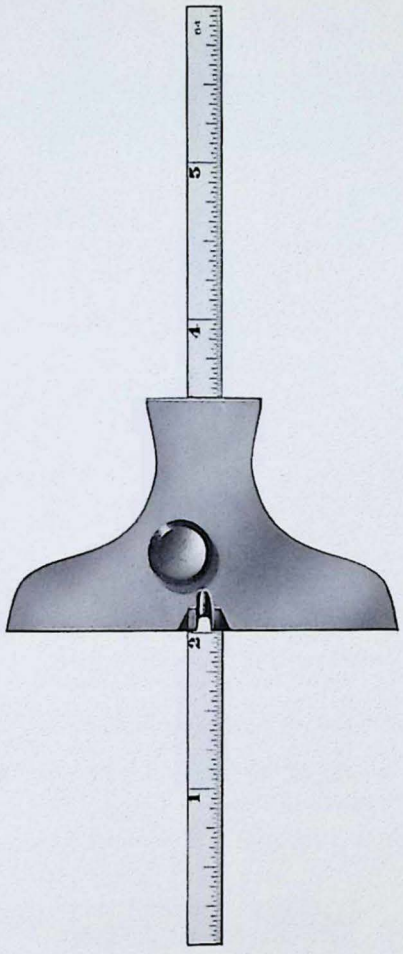
### No. 464

Stainless steel with satin chrome reading surfaces. Double set screw for fine adjustment. INSIDE, OUTSIDE, and DEPTH read directly on large vernier in .001" or 1/20 mm. 0"-6" range.

PACKED IN LEATHER CASE SHIPPING WEIGHT: ½ LB.

# DEPTH GAUGES

## No. 330 DEPTH GAUGE

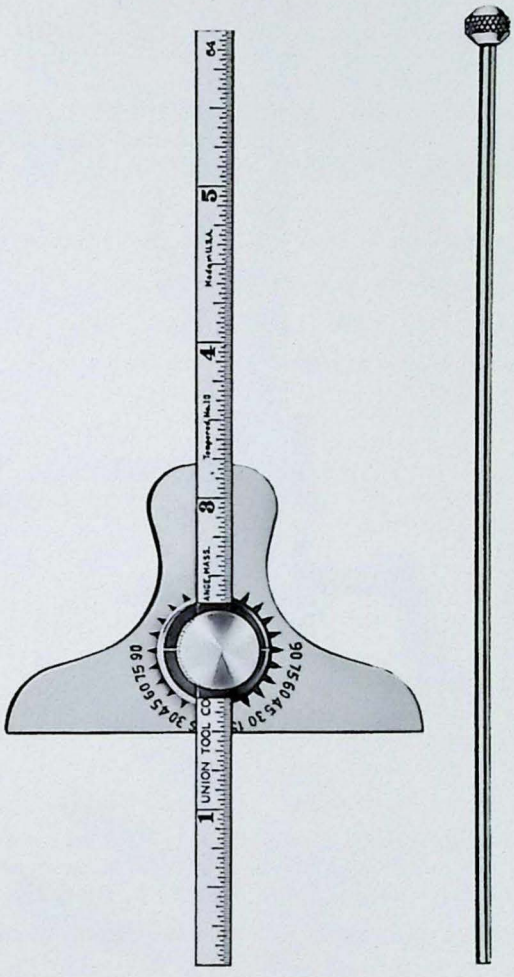


A fixed, 90 degree angle depth gauge with 2½" precision ground work base. Mottled, case hardened finish on head. Supplied with 6 inch long, .040 inch thick, 7/32 inch wide rule. (Union No. 430-6"). Rule is precision ground to fit head. Meets Fed. Spec. Type II, Class 1.

| CATALOG NUMBER | GRADUATION |
|---|---|
| 330 | #10, #11 |

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅛ LB.

## No. 331 ADJUSTABLE ANGLE DEPTH GAUGE



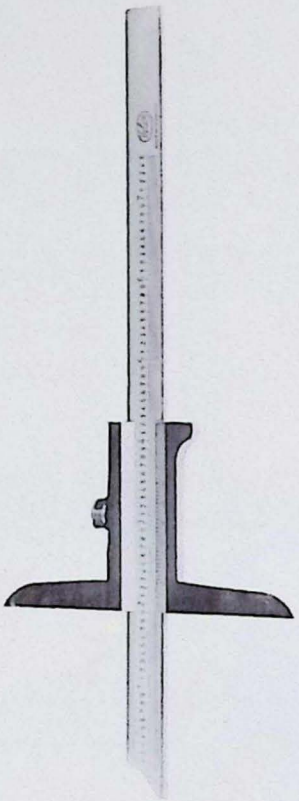
Adjustable angle depth gauge with rod. Head marked on both sides of adjusting stud in 15 degree increments. Hardened, bright polished head with precision ground base grooved to hold rod (3/32" diameter). Narrow rule; as above; held under adjusting nut by spring tempered washer which is notched to fit increment grooves in head.

| CATALOG NUMBER | GRADUATION |
|---|---|
| 331 | #10, #11 |

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅛ LB.

## VERNIER DEPTH GAUGE

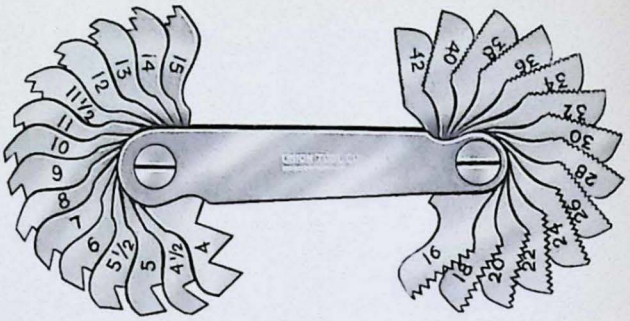
### No. 335 VERNIER DEPTH GAUGE



All measuring surfaces of this 8" depth gauge are hardened and ground for accuracy to within 1/1000". Made of chrome steel, with satin chrome finish. Made in W. Germany.

PACKED IN WOOD CASE SHIPPING WEIGHT: 1½ LBS.

## THREAD GAUGES




Compact gauges for determining either inside or outside threads per inch according to V, Unified, American National and U. S. Standard — 60 degree threads.

**No. 50** 30 Pitches; 4 thru 42—4, 4½, 5, 5½, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42. With 11½ and 27 Pipe Thread Pitches.

**No. 51** 22 Pitches; 9 thru 40—9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40. With 11½ and 27 Pipe Thread Pitches.

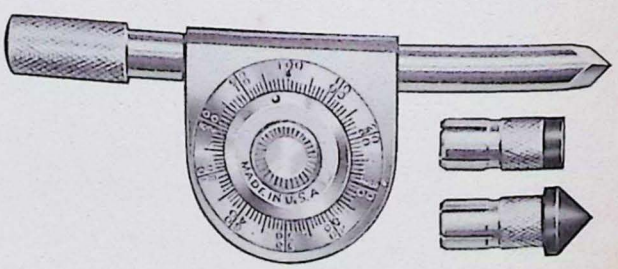
**No. 52** 30 Pitches; 6 thru 60—6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42, 48, 50, 56, 60. With 11½ and 27 Pipe Thread Pitches.

ALL PACKED 1 PER TUBE SHIPPING WEIGHT: ⅛ LB.

### No. 840 SPEED INDICATOR

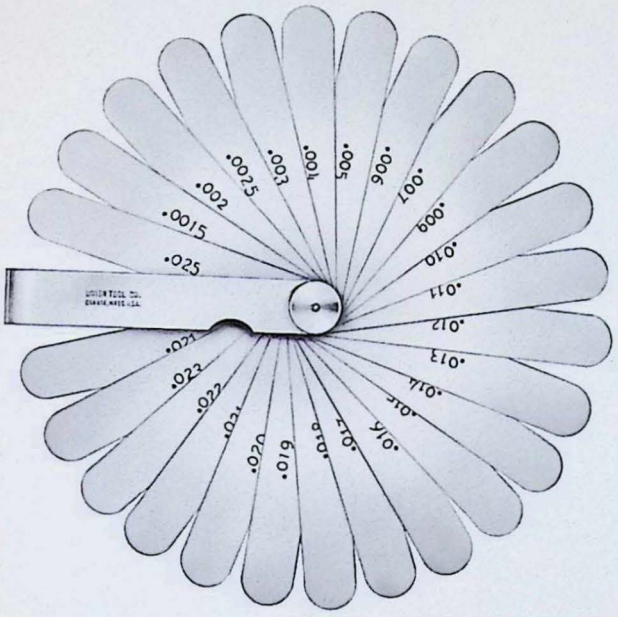
Fixed dial is graduated in both directions so it can always be read direct. Rotating dial quickly set to 0 by loosening knurled thumbscrew, turning to position and tightening thumb screw. Nickel plated and buffed. Two rubber tips are provided, one for centered and one for pointed shafts. Length 4¼".

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅜ LB.



# THICKNESS GAUGES

## No. 300DL THICKNESS GAUGE



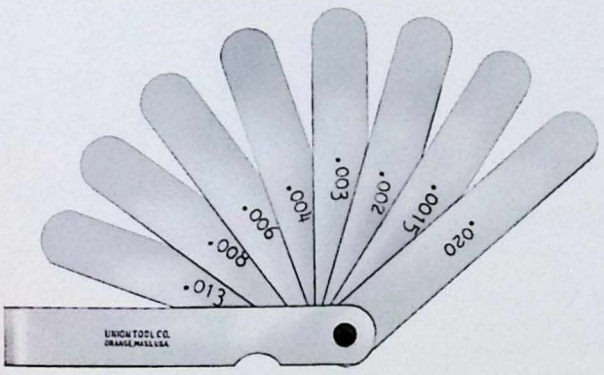

Most popular full range gauge. Includes all 26 sizes of leaves, which are replaceable. Locking device allows individual selection and fixation of leaf in use.

26 Leaves, 3 1/16 inches long x 1/2 inch wide.

Range includes .0015 to .025 inclusive with .0025 leaf.

PACKED 1 IN A BOX SHIPPING WEIGHT: 1/8 LB.

## No. 300F THICKNESS GAUGE



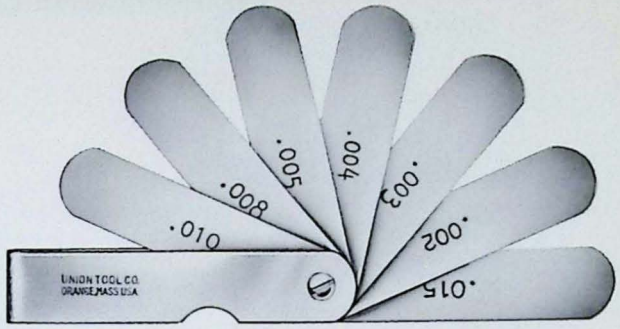

One piece case, riveted.

9 Leaves, 3 1/16 inches long x 1/2 inch wide.

.0015 .002 .003 .004 .006 .008 .010 .013 .020

PACKED 6 IN A BOX SHIPPING WEIGHT: 3/4 LB.

## No. 300C THICKNESS GAUGE



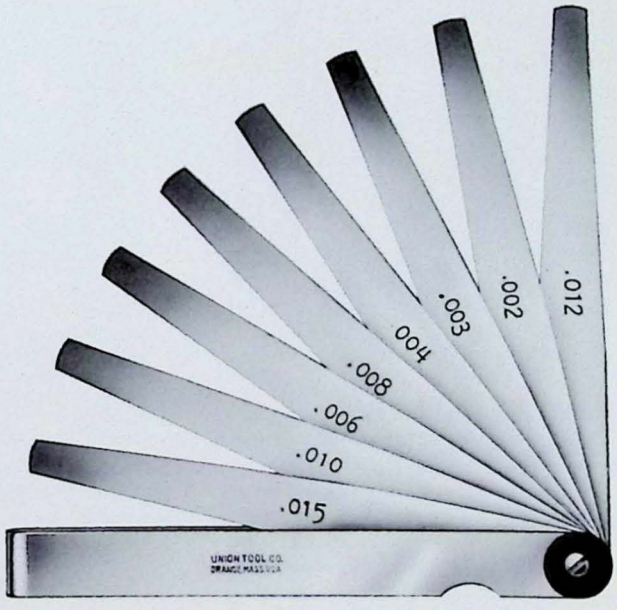

7 leaves, shorter length. Widely used in automotive work.

7 Leaves, 2 1/4 inches long x 1/2 inch wide.

.002 .003 .004 .005 .008 .010 .015

PACKED 1 IN A BOX SHIPPING WEIGHT: 1/8 LB.

## No. 301 TAPERED LEAF THICKNESS GAUGE



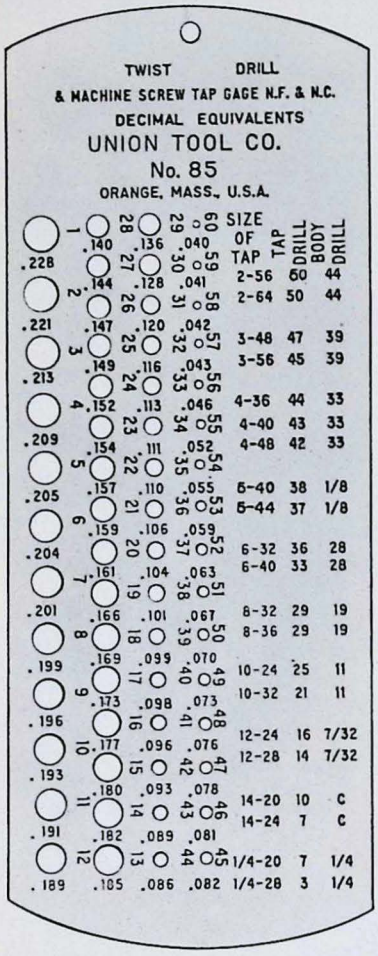

Popular quality gauge with tapered leaves. Leaves are medium length. One piece case. Replaceable leaves. Lock nut.

9 Leaves, 4 1/2 inches long x 1/2 inch wide.

.0015 .002 .003 .004 .006 .008 .010 .012 .015

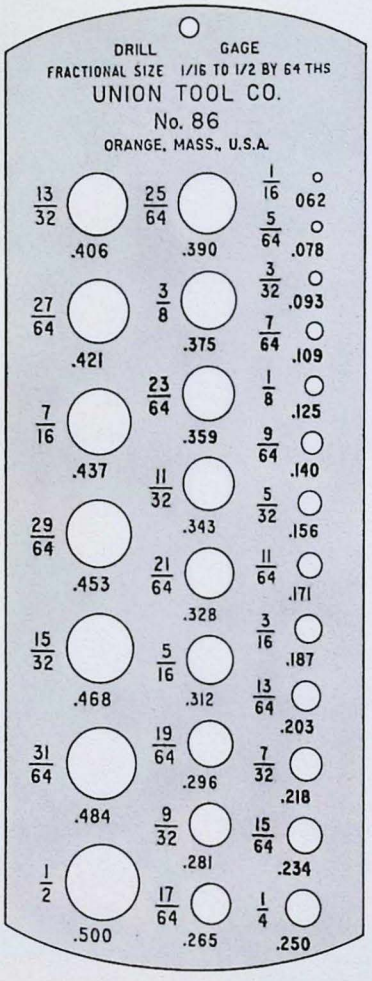
PACKED 1 IN A BOX SHIPPING WEIGHT: 1/8 LB.

# DRILL GAUGES



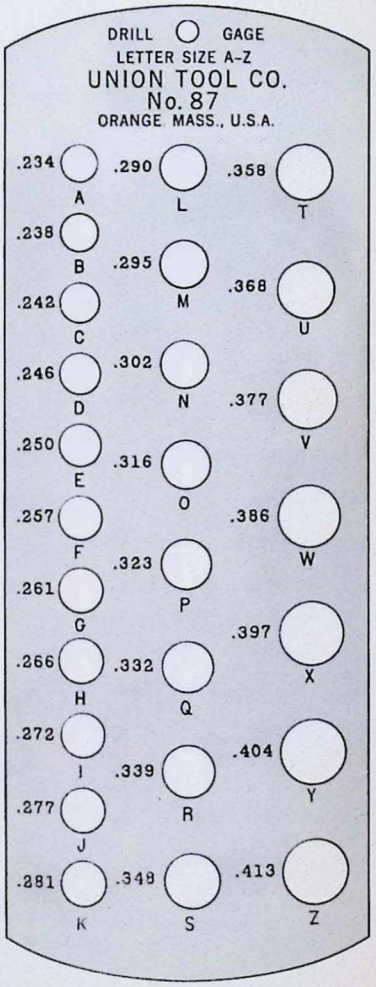

## No. 85 TAP AND DRILL GAUGE

A useful gauge which provides the correct size tap drill for common machine screw taps in "NF" or "NC". Gives correct body size drill. 60 holes marked with number size and decimal equivalent. Tap size, 2-56 to ¼-28. Tap drill, 50 to 3. Body drill 44 to ¼. Constructed of heavy gauge steel with Satin Chrome plate for complete rust protection. Meets Fed. Spec. Measures 2½" x 6½". Packed in clear envelopes. Shipping Weight: ¼ lb.




## No. 86 FRACTIONAL DRILL GAUGE

Provides fractional sizes 1/16" to ½" by 64ths. 29 holes with drill size in inches and in decimal. Satin Chrome plated, heavy gauge steel. Measures 2½" x 6½". Packed 1 per clear envelope. Shipping Weight: ¼ lb.

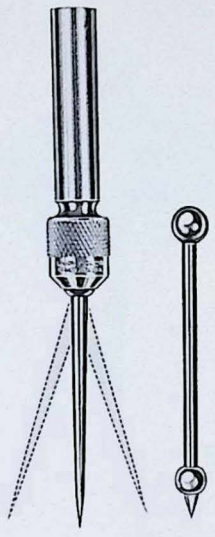



## No. 87 LETTER SIZE DRILL GAUGE

26 gauging holes for letter sizes A to Z, with decimal equivalents. Satin chrome plated heavy gauge steel. Packed 1 per clear envelope. Shipping Weight: ¼ lb.

## WIGGLERS

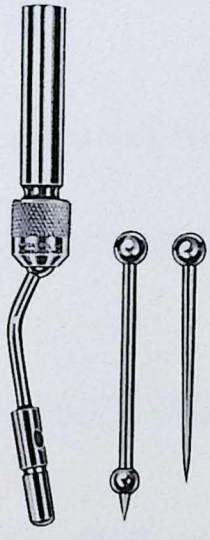
### No. 326 WIGGLER



Very useful tool for locating centers or positioning fixtures in tools such as a jig borer. Comes with one extra point, ball end, which is .250 inches for use in centering small holes. Tension adjusted by knurled shell.

PACKED 1 IN A TUBE SHIPPING WEIGHT: ⅛ LB.

### No. 327 WIGGLER



Same as No. 326, but with one additional point; an offset indicator holder.

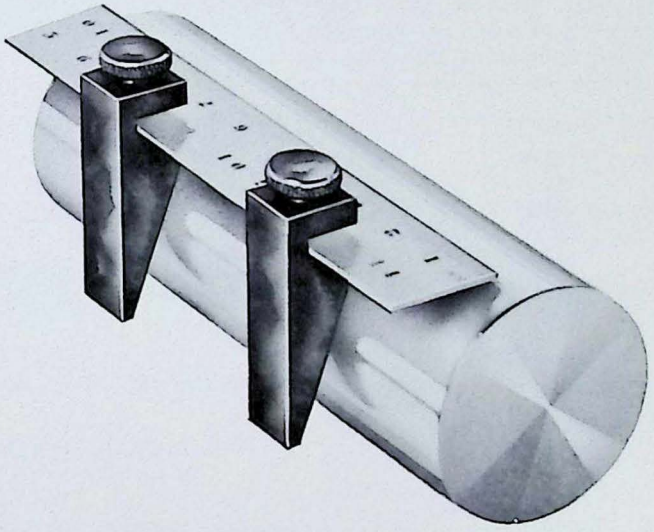
PACKED 1 IN A TUBE SHIPPING WEIGHT: ⅛ LB.

### No. 441 CENTER GAUGES

Made of quality steel, full hardened, with lapped edges and notches according to American National and U. S. 60 degree standards. Useful for setting screw cutting tools, lathe centers, threads per inch, etc. Graduated 14ths, 20ths, 24ths, and 32nds.

PACKED 6 IN A BOX SHIPPING WEIGHT: ⅛ LB.

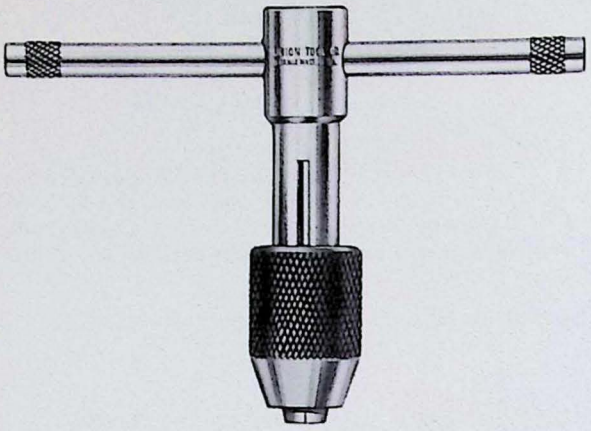
### No. 310 KEY SEAT RULE BLOCKS



Blocks, (sold only in pairs), are used to convert a steel rule, straight edge or a square blade into a key seat rule with which accurate keyways and parallel lines may be marked on cylindrical work. Useful singly, or in pairs, for clamping on any of above rules and using as a gauge stop.

PACKED 1 SET IN A BOX SHIPPING WEIGHT: ⅛ LB.

## ADJUSTABLE T-HANDLE TAP WRENCHES

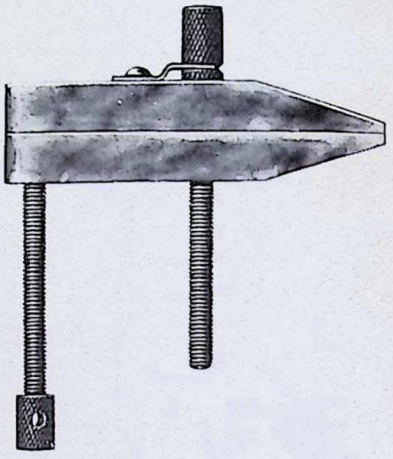


Sliding T-handle facilitates usage, and allows use of greater pressure. Used for holding taps, drills, reamers, and other small tools which are turned by hand. Black shell. Chuck head centered to allow use on lathe centers or vertical drilling machines as work starter.

| NUMBER | CAPACITY | SHIPPING WEIGHT |
|---|---|---|
| 25-0 | 3/32 to 3/16 | 1 lb. |
| 25-1 | 3/16 to 5/32 | 1½ lbs. |
| 25-2 | 5/32 to ½ | 2¾ lbs. |

ALL PACKED 6 IN A BOX

## MACHINISTS CLAMPS

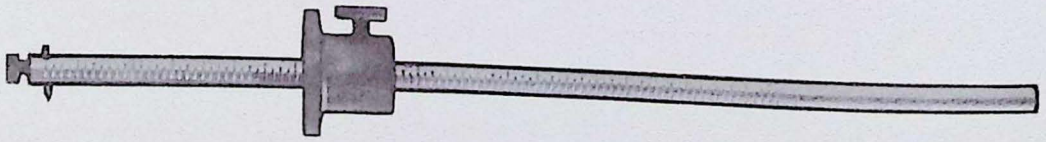


Designed for maximum strength, rigidity, and parallel clamping. Deep case hardened steel finish. Screw heads drilled to allow use of pin for tightening. Spring clip holds screw on loose jaw.

| NUMBER | OPENING | JAW LENGTH | SHIPPING WEIGHT |
|---|---|---|---|
| 550 | 1" | 2" | ¼ lb. |
| 551 | 1⅝" | 3" | ⅞ lb. |
| 552 | 2" | 4" | 1½ lbs. |

ALL PACKED 6 IN A BOX

## No. 445 SCRATCH GAUGE

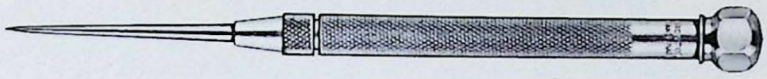


All-purpose, rust resistant marking gauge with hardened point and head. Scriber rod is full 8 inches long giving 6 working inches behind head. Scriber point is replaceable phonograph needle. Rod graduated in 16ths of an inch.

PACKED 1 IN A BOX SHIPPING WEIGHT: ¼ LB.

# SCRIBERS

## No. 317 POCKET SCRIBER



Body made of knurled aluminum tubing and fitted with chuck which holds the finely drawn and tempered scriber point. The point can be removed and reversed for protection. Overall length: 4⅞". Blade length: 2⅜".

PACKED 6 IN A BOX SHIPPING WEIGHT: ¼ LB.

## No. 320 SINGLE POINT SCRIBER

Fine quality steel body with fully hardened point. Length: 6 inches.

PACKED 6 IN A BOX SHIPPING WEIGHT: ⅜ LB.

## No. 321 FIXED POINT SCRIBER

Combination scriber with one straight and one bent point. Top quality steel. Fully hardened points. Fixed body. Length: 8½ inches.

PACKED 6 IN A BOX SHIPPING WEIGHT: ⅜ LB.

## No. 322 SCRIBER AND PACKING HOOK

Full-hard, straight scribing point at one end — hook at other end. Length: 7 inches.

PACKED 6 IN A BOX SHIPPING WEIGHT: ⅜ LB.

## No. 318 8½" REPLACEABLE POINTS SCRIBER

Made of fine quality steel with carefully tapered, full-hard points. Straight point at one end. Bent point at other end.

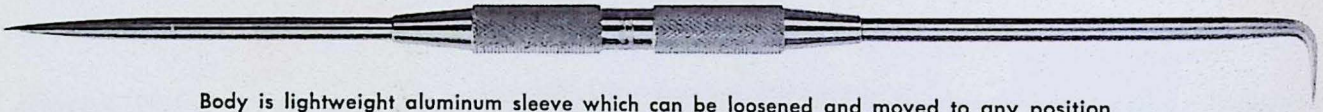
PACKED 6 IN A BOX SHIPPING WEIGHT: 3/8 LB.

## No. 319 12" REPLACEABLE POINTS SCRIBER

Same as No. 318 but with long bent-point end.

PACKED 6 IN A BOX SHIPPING WEIGHT: ½ LB.

## No. 325 ADJUSTABLE SLEEVE SCRIBER



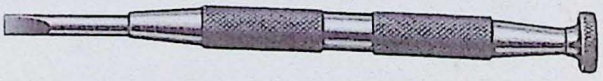
Body is lightweight aluminum sleeve which can be loosened and moved to any position on blade — then tightened and locked. Blade is finest steel with full-hard points. Length: 8½ inches.

PACKED 6 IN A BOX SHIPPING WEIGHT: 3/8 LB.

# SCREWDRIVERS

## No. 323 AND 324 TOOLMAKERS' SCREWDRIVERS

No. 324



No. 323

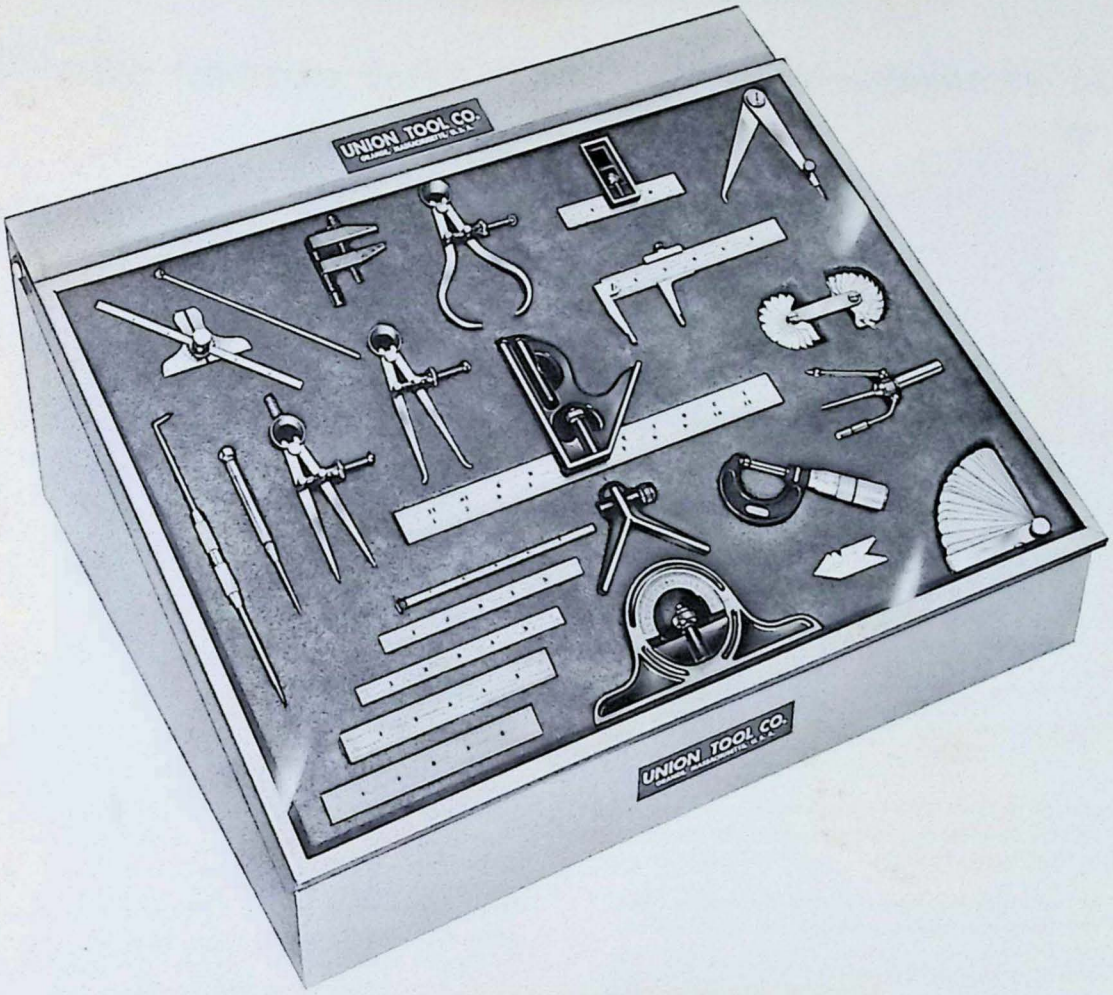
These finely made screwdrivers have hardened blades and are deeply knurled for firm grip.

**No. 323** Length: 4¼ inches. Width of blade: 5/32 inches.

**No. 324** Length: 5⅜ inches. Width of blade: 7/64 inches.

PACKED 6 IN A BOX SHIPPING WEIGHT: 3/8 LB.

# No. 2003 COUNTER MERCHANDISER

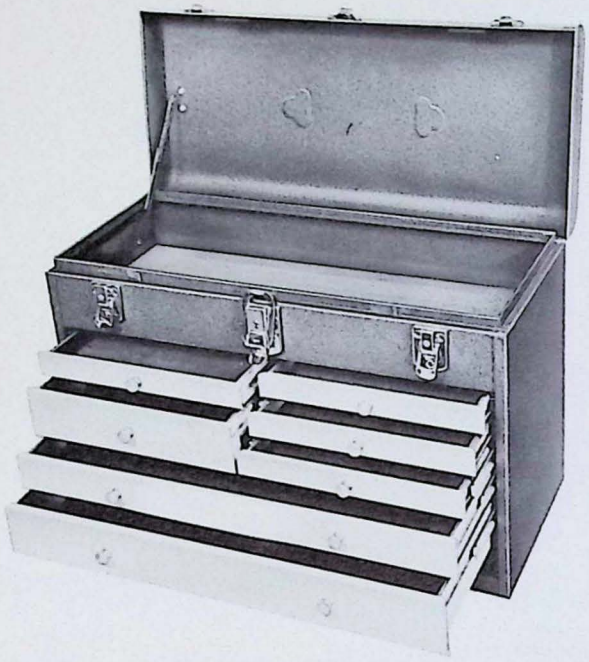



Light hammertone finish steel with plexiglass panel. Panel lifts up but has pilferproof lock. Tools nested in bright blue, easily accessible pockets. Space under panel for backup stock. No charge for cabinet on original order for this new display. Overall 24¾″ x 19″ x 4″ high in front and 11″ in back. One each of following tools:

**#10**—4″ Divider
**#12**—4″ Outside Caliper
**#14**—4″ Inside Caliper
**#19**—4″ Hermaphrodite Caliper
**#50** Thread Gauge
**#212**—14 Machinist Square
**#203** Machinist Center Head
**#225** Bevel Protractor
**#300DL** Thickness Gauge
**#317** Pocket Scriber
**#325** Adjustable Sleeve Scriber
**#327** Wiggler
**#331** Adjustable Angle Depth Gauge
**#405**—6″ #4 Grad. Machinist Rule
**#405C**-6″ #4 Grad. Chrome Rule
**#425**—6″ Flexible Rule #4 Grad.
**#426**—6″ Flexible Rule #16 Grad.
**#431**—6″ Narrow Hook Rule #10 Grad.
**#441** Center Gauge
**#453** Slide Caliper Rule
**#550** Machinist Clamp
**#625-44** Double Square
**#811** Micrometer

# TOOL BOXES

## No. 1250 TOOLMAKERS CHEST



First choice of the machinist and tool and die maker. Features seven felt lined drawers plus a lined tool till on top. Smooth sliding drawers have stops to prevent spilling, but can be removed for cleaning. Full length piano hinge cover. Front panel stores beneath drawer. Secure lock and nickel plated catches. Finished in wrinkled dark brown baked enamel. Weight 32 lbs.

| | DIMENSIONS | | |
|---|---|---|---|
| PART | LENGTH | WIDTH | HEIGHT |
| Chest Closed | 20⅛" | 8½" | 13½" |
| Top Tool Till | 20" | 8½" | 2⅞" |
| 4 Drawers | 8½" | 7⅛" | 1" |
| 1 Drawer | 8½" | 7⅛" | 1⅞" |
| 1 Drawer | 18⅛" | 7⅛" | 1½" |
| 1 Drawer | 18⅛" | 7⅛" | 2¼" |

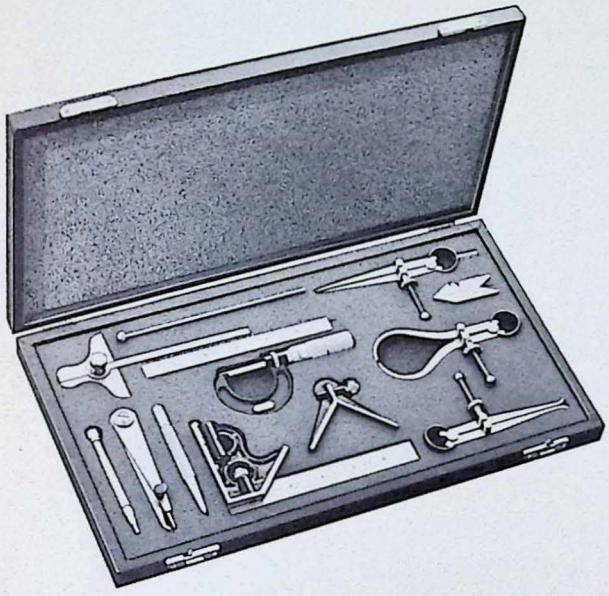
## No. 1260 MACHINIST CHEST

Features three felt lined drawers to accommodate larger tools. Felt lined drawers have stops to prevent spilling, but can be removed for cleaning. Full length piano hinge cover. Front panel stores under drawers. Secure lock. Finished in wrinkled dark brown baked enamel. Weight 32 lbs.

| | DIMENSIONS | | |
|---|---|---|---|
| PART | LENGTH | WIDTH | HEIGHT |
| Chest Closed | 20⅛" | 8½" | 13½" |
| Top Tool Till | 20" | 8½" | 2⅞" |
| 1 Drawer | 18⅛" | 7⅛" | ¾" |
| 1 Drawer | 18⅛" | 7⅛" | 2⅛" |
| 1 Drawer | 18⅛" | 7⅛" | 3" |

# TOOL KITS

## No. 1002 TOOL KIT



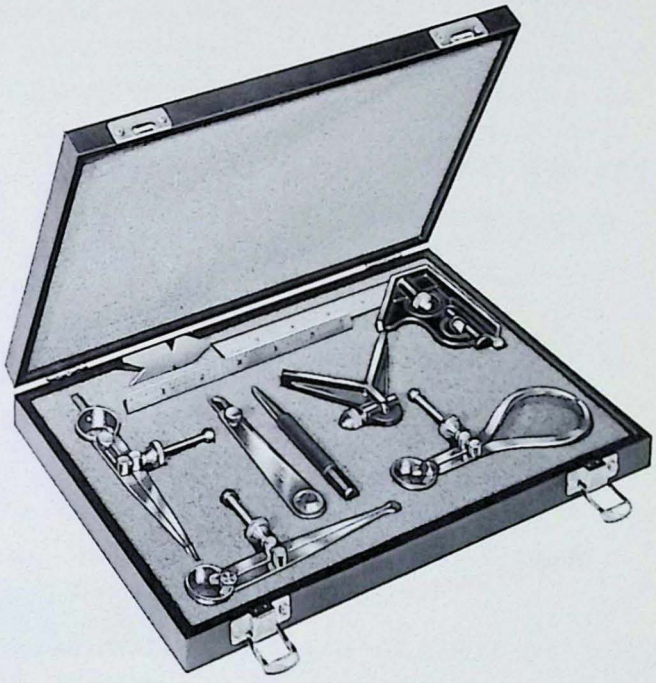
This new kit contains a more complete set of the basic tools required by the apprentice mechanic, machinist or toolmaker. Kit has three more tools than competitive kits offer and at same cost as these lesser equipped sets. All tools nested in a sturdy leatherette covered case for easy access. No cumbersome straps or loops are necessary to secure tools.
Same case available with your specified deletion of tools.

Kit consists of:

**#206–24** 6" Combination Square with Center Head
**#441** Center Gauge
**#10–4"** Spring Divider
**#12–4"** Outside Spring Caliper
**#14–4"** Inside Spring Caliper
**#19–4"** Hermaphrodite Caliper
**#423–6"** #5 Grad. Rule
**#32** 5/64" Center Punch
**#317** Pocket Scriber
**#331** Adjustable Angle Depth Gauge
**#811** Micrometer

PACKED 1 IN A BOX SHIPPING WEIGHT: 3 LBS.

## No. 1000 BASIC TOOLMAKERS KIT



This basic kit is ideally suited for use by Toolmakers. Tools are of standard quality and guaranteed accuracy. Supplied in a durable fitted case. Case size closed is 8" x 12" x 1¼".

Kit consists of:

**#206–24** 6" Combination Square with Center Head
**#441** Center Gauge
**#10–4"** Spring Divider
**#12–4"** Outside Spring Caliper
**#14–4"** Inside Spring Caliper
**#19–4"** Hermaphrodite Caliper
**#425–6"** Rule
**#32** 5/64" Center Punch

PACKED 1 IN A BOX SHIPPING WEIGHT: 1¾ LBS.

# NAIL SETS AND PUNCHES

- **Chrome Alloy Steel,** the toughest, strongest, most durable metal available for this kind of tool.
- **Entire Length** fully hardened and tempered.
- **Positive-Grip Knurling** on all Nail Sets and Punches.
- **Full Guarantee** on every tool against defects.

## No. 30 ROUND HEAD NAIL SETS

**4" long — 3/8" Body**

For setting nails below the surface of wood, wallboard, etc. Cupped points prevent slipping.

POINT SIZE

| | |
|---|---|
| 1/32 | 5/32 |
| 2/32 | 6/32 |
| 3/32 | 7/32 |
| 4/32 | 8/32 |

PACKED 12 IN A BOX SHIPPING WEIGHT: 1 LB.

## No. 60 SQUARE HEAD NAIL SETS

**4" long — 5/16" body**

Won't roll. Easy to use.

POINT SIZE

| | |
|---|---|
| 1/32 | 3/32 |
| 2/32 | 4/32 |
| 5/32 | |

PACKED 12 IN A BOX SHIPPING WEIGHT: 1 LB.

## No. 32 CENTER PUNCHES

**4" long — 3/8" Body**

Used for marking and for making starting holes in metal, wood, hardboard, etc.

POINT SIZE

| | |
|---|---|
| 5/64 | 9/64 |
| 7/64 | 11/64 |

PACKED 12 IN A BOX SHIPPING WEIGHT: 1 LB.

## No. 34 DRIVE TAPER PUNCHES

**4" long — 3/8" Body**

For driving out that stubborn pin, you cann't beat these durable tools.

POINT SIZE

| | |
|---|---|
| 2/32 | 4/32 |
| 3/32 | 5/32 |

PACKED 12 IN A BOX SHIPPING WEIGHT: 1 LB.

## No. 36 PRICK PUNCHES

**4" long — 3/8" Body**

Used for punching holes in sheet metal, steel, aluminum, leather, wood, etc.

POINT SIZE

| | |
|---|---|
| 7/64 | 11/64 |
| 9/64 | 13/64 |

PACKED 12 IN A BOX SHIPPING WEIGHT: 1 LB.

## No. 38 DRIVE PIN PUNCHES

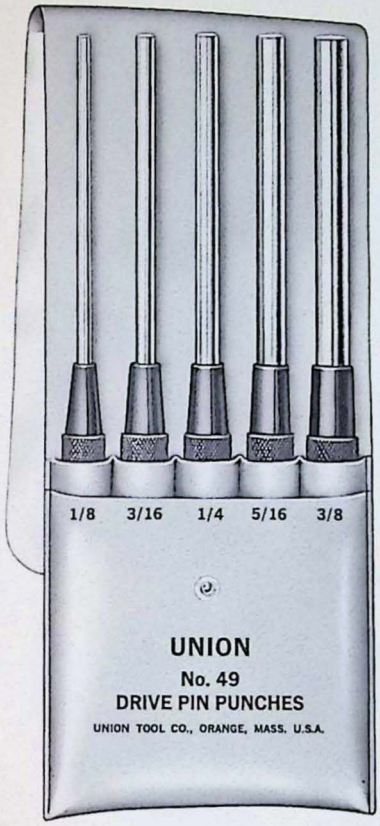
**4" long — 3/8" Body, 5/16" Body on 3 small sizes**

For removing loose pins, taper pins, keys, etc.

POINT SIZE

| | |
|---|---|
| 2/32 | 6/32 |
| 3/32 | 7/32 |
| 4/32 | 8/32 |
| 5/32 | 10/32 |

PACKED 12 IN A BOX SHIPPING WEIGHT: 1 LB.




*New*

AVAILABLE SPRING 1969

## 8 INCH DRIVE PIN PUNCHES

These new punches are ideal for getting at that hard to reach pin, or where long travel is required. They are well made, and will stand up under hard use. Tough, knurled body, and centerless ground points. Points are slightly under dimensions stated.

| NO. | POINT | BODY LENGTH | BODY DIA. | PACKED | PKG. WT. |
|---|---|---|---|---|---|
| 48 | 1/8" | 8" | 7/16" | 6 | 1¼ lbs. |
| 48 | 3/16" | 8" | ½" | 6 | 1⅝ lbs. |
| 48 | ¼" | 8" | ½" | 6 | 1⅞ lbs. |
| 48 | 5/16" | 8" | ½" | 6 | 2 lbs. |
| 48 | ⅜" | 8" | 9/16" | 6 | 2½ lbs. |

**No. 49** Set of 5 sizes in Vinyl Case Wt. 1¾ lb.

## PUNCH SETS

AVAILABLE SPRING 1969

The following variety of 4 piece punch sets are available in handy vinyl pouches. All punches are standard Union quality, fully hardened for durability and long service.

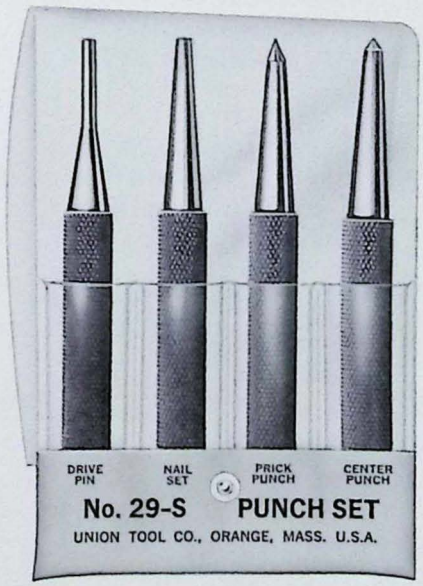
ASSORTMENT
#29-S, one each: 30 — 2/32" Nail Set
32 — 9/64" Center Punch
36 — 11/64" Prick Punch
38 — 4/32" Drive Pin Punch

CENTER PUNCHES
#32-S, one each: 32 — 5/64", 7/64", 9/64" and 11/64"

PRICK PUNCHES
#36-S, one each: #36 — 7/64", 9/64", 11/64", and 13/64"

DRIVE PIN PUNCHES
#38-S1, one each: #38 — 2/32", 3/32", 4/32", and 5/32"

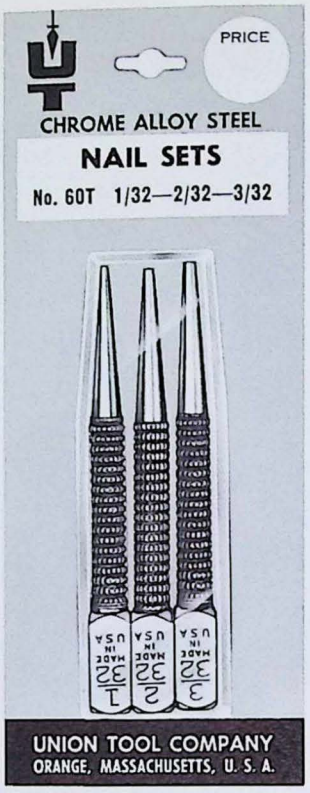
#38-S2, one each: 38 — 6/32", 7/32", 8/32", and 10/32"



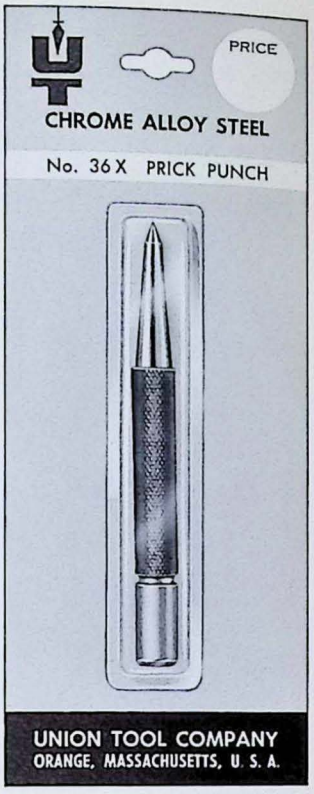
# CARDED NAIL SETS AND PUNCHES

## DISPLAY CARDS

All types of Union Nail Sets and Punches are available on Bubble-Pak Display Cards as shown at left.




T-PAK




X—PAK

### No. 29T NAIL SET — PUNCH ASSORTMENT

This handy carded set contains the following: 2/32 No. 30 Nail Set, 9/64 No. 32 Center Punch, 4/32 No. 38 Drive Pin Punch.

PACKED 10 CARDS IN A BOX SHIPPING WEIGHT: 3½ LBS.

### No. 30T 3-PAK CARDED SET (Rd. Nail Sets)

1 each of sizes: 2/32 — 3/32 — 4/32.

PACKED 10 CARDS IN A BOX SHIPPING WEIGHT: 3½ LBS.

### No. 30X SINGLE NAIL SET CARD

### No. 60-T 3-PAK CARDED SET (Sq. Nail Sets)

1 each of sizes: 1/32 — 2/32 — 3/32.

PACKED 10 CARDS IN A BOX SHIPPING WEIGHT: 3½ LBS.

### No. 60X SINGLE NAIL SET CARD

### No. 32T 3-PAK CARDED SET (Center Punches)

1 each of sizes: 5/64 — 7/64 — 9/64.

PACKED 10 CARDS IN A BOX SHIPPING WEIGHT: 3½ LBS.

### No. 32X SINGLE CENTER PUNCH CARD

### No. 34T 3-PAK CARDED SET (Drive Taper Punches)

1 each of sizes: 2/32 — 3/32 — 4/32.

PACKED 10 CARDS IN A BOX SHIPPING WEIGHT: 3½ LBS.

### No. 34X SINGLE DRIVE TAPER PUNCH CARD

### No. 36T 3-PAK CARDED SET (Prick Punches)

1 each of sizes: 7/64 — 9/64 — 11/64.

PACKED 10 CARDS IN A BOX SHIPPING WEIGHT: 3½ LBS.

### No. 36X SINGLE PRICK PUNCH CARD

### No. 38T 3-PAK CARDED SET (Small Sizes — Drive Pin Punches)

1 each of sizes: 2/32 — 3/32 — 4/32.

PACKED 10 CARDS IN A BOX SHIPPING WEIGHT: 3½ LBS.

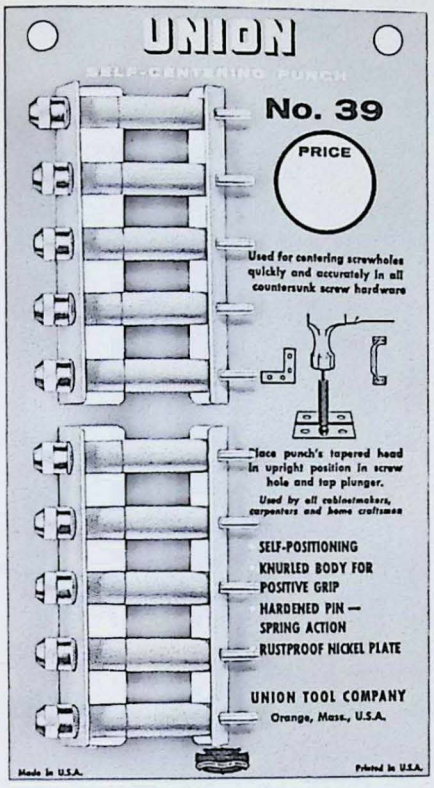
### No. 38X SINGLE DRIVE PIN PUNCH CARD

### No. 38W 3-PAK CARDED SET (Large Sizes — Drive Pin Punches)

1 each of sizes: 5/32 — 6/32 — 7/32.

PACKED 10 CARDS IN A BOX SHIPPING WEIGHT: 3½ LBS.

## No. 39 SELF CENTERING PUNCH


UNION
SELF-CENTERING PUNCH
No. 39
PRICE
Used for centering screwholes quickly and accurately in all countersunk screw hardware
Place punch's tapered head in upright position in screw hole and tap plunger.
Used by all cabinetmakers, carpenters and home craftsmen
SELF-POSITIONING KNURLED BODY FOR POSITIVE GRIP
HARDENED PIN — SPRING ACTION
RUSTPROOF NICKEL PLATE
UNION TOOL COMPANY
Orange, Mass., U.S.A.
Made in U.S.A.
Printed in U.S.A.

Used for centering screw holes quickly and accurately in all countersunk screw hardware. Hardened pin. Spring action Self positioning two piece steel fitted case. Nickel plated.

CARDED 10 PER CARD AND PACKED

1 CARD IN A BOX SHIPPING WEIGHT: ½ LB.

## PRY BAR

**No. 79**
**Pry Bar**

**For**

**1001**

**Jobs**

Ideal tool for home, factory and shop. No limits to use by carpenters, painters, mechanics, hobbyists, and home owners. As a pry bar, as a tack and nail puller, as a scraper or chisel. Made of tempered tool steel to withstand abuse. 9½" long, 1¾" wide. Carded for self-service sales.

PACKED 10 CARDS PER CARTON

SHIPPING WEIGHT: 5 LBS.

## No. 70 HEXAGONAL PLUMB BOBS

Nickel plated hexagonal steel, with accurate turned points. Center cavity type for positive alignment.

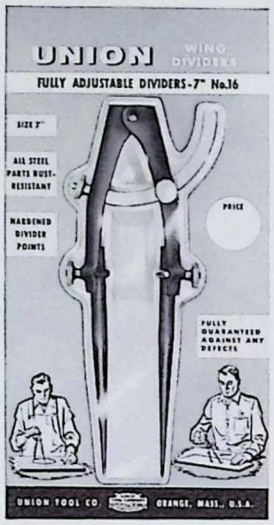
AVAILABLE IN THREE SIZES PACKED 5 PER BOX

| CATALOG NUMBER | SIZE | SHIPPING WEIGHT |
|---|---|---|
| 70-5 | 5 oz. | 1¾ lbs. |
| 70-8 | 8 oz. | 2¾ lbs. |
| 70-12 | 12 oz. | 4 lbs. |

# WING DIVIDERS

## — BLISTER CARDED —

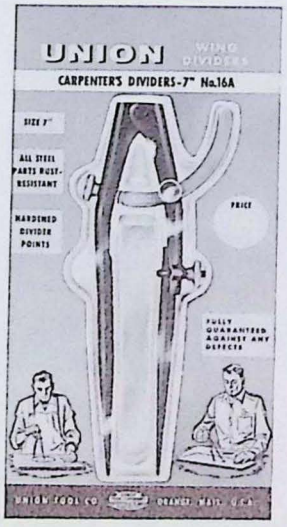
All Wing Dividers are packaged on blister type display cards, and have a rust resistant black oxide and bright cadmium plate finish.




## No. 16 FULLY ADJUSTABLE DIVIDERS – 7″

All steel components. Spring tensioned fine adjustment with two fully hardened replaceable straight points (5/16″). Knurled binding screw locks quadrant.

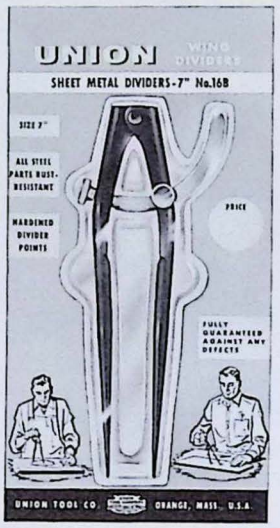
CARDED AND PACKED 3 CARDS IN A BOX
SHIPPING WEIGHT: 1¼ LBS.




## No. 16A CARPENTERS DIVIDERS – 7″

Same quality construction as No. 16, but with one replaceable leg designed to hold standard 5/16″ pencil to make carpenters' compass.

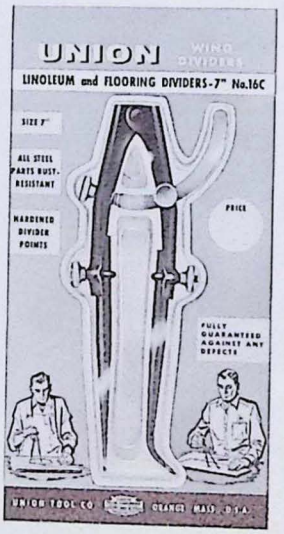
CARDED AND PACKED 3 CARDS IN A BOX
SHIPPING WEIGHT: 1¼ LBS.




## No. 16B SHEET METAL DIVIDERS–7″

Same quality construction as No. 16, but with two fixed divider legs for sheet metal work.

CARDED AND PACKED 3 CARDS IN A BOX
SHIPPING WEIGHT: 1¼ LBS.

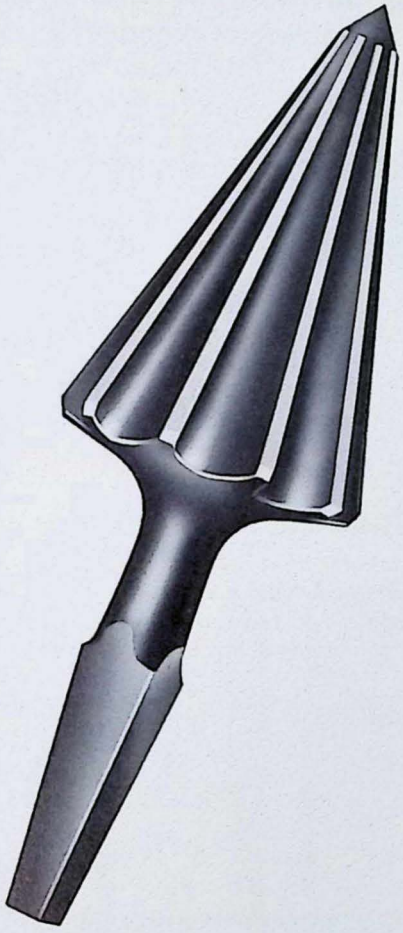



## No. 16C LINOLEUM AND FLOORING DIVIDERS – 7″

Same quality construction as No. 16, but with two replaceable legs; one straight leg; and one bent divider point. Both legs completely adjustable for positioning in scribing or marking irregular profiles on linoleum or flooring.

CARDED AND PACKED 3 CARDS IN A BOX
SHIPPING WEIGHT: 1¼ LBS.

# BURRING REAMERS

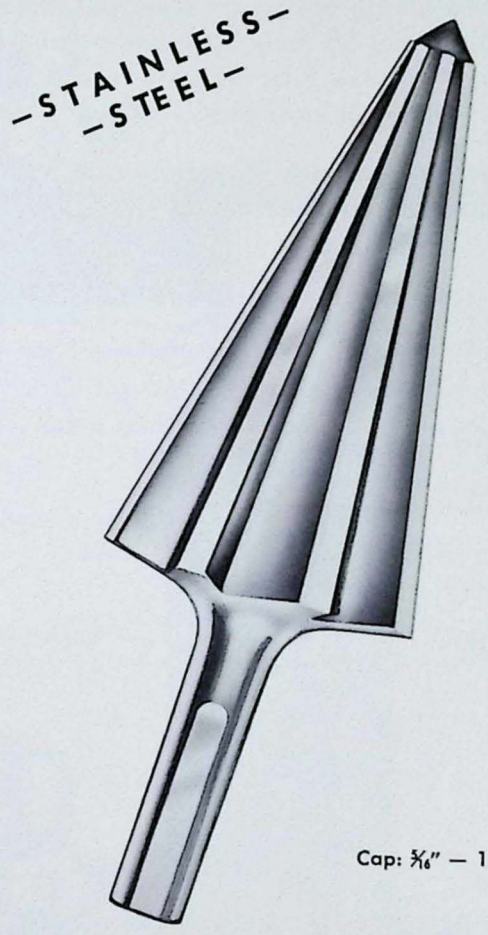


## PIPE BURRING REAMERS

Used for rapid, easy removal of burrs caused by cutting tools. Can be used to enlarge holes in sheet metal, or for countersinking in wood. Supplied with bit brace tang only.

| NUMBER | REAMS PIPE | SHIPPING WEIGHT |
|---|---|---|
| 26 | 5/16" to 1" | 1/4 lb. |
| 27 | 5/16" to 1 1/4" | 1/2 lb. |
| 28 | 1/2" to 2" | 1 1/4 lbs. |

ALL PACKED 1 IN A BOX




Cap: 5/16" — 1 1/4"

## No. 77 BURRING REAMER

A new exclusive product from Union. For the metal worker, plumber, electrician, mechanic, and handyman. Made of stainless steel, specially heat treated for unbelievable durability and lifetime service. All the performance of a "high Speed" reamer, and at a much lower cost. 3/8 inch shank is designed for hand or power application. Reamer will never rust. Bright natural finish.

PACKED 1 IN A BOX SHIPPING WEIGHT: 1/2 LB.

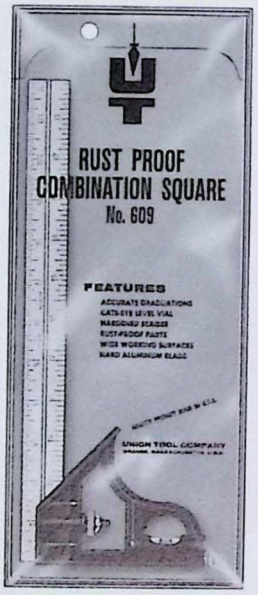
# CARPENTERS COMBINATION SQUARES

World's broadest line of carpenters combination squares. Zinc die cast square and miter heads give weight content similar to cast iron without a rusting problem. Steel blades used in all squares are machine graduated in 8ths and 16ths on the grooved side, and 16ths and 32nds on the other side, with quick reading figures on the 32nds graduations. All scribers are fully hardened and held in brass bushings, double hairline level vials have cats-eye filler for ease in sighting. All binder bolt assemblies are spring tensioned, and made of steel parts.

## COMPETITIVE PRICED SQUARES

**No. 609**

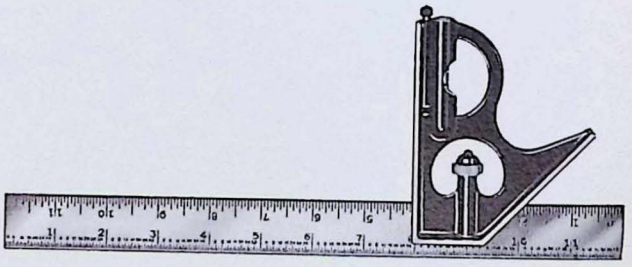
*New*




A rust proof, promotional square, bagged for peg board, or bin display. Rust proof aluminum blade is anodized for durability. High impact poly-styrene, die cast head has cats-eye level vial and full hardened scriber. Plated steel parts.

PACKED 50 TO THE CASE SHIPPING WEIGHT: 10 LBS.

**No. 605**



Durable black japan finish on zinc head. Good quality square for volume sales. Plain Steel blade. Packed 10 to a box.

12" SIZE ONLY SHIPPING WEIGHT: (BOX OF 10): 6½ LBS.
PACKED 4 BOXES IN A CASE WEIGHT: 28 LBS.

# BEST QUALITY COMBINATION SQUARES

## No. 602

Best quality. Popular pattern. Durable black japan finish on zinc square head. Blade is polished and has ground edges. Individually boxed.

12" SIZE ONLY SHIPPING WEIGHT: ⅞ LB.

PACKED 20 BOXES IN A CASE WEIGHT: 16 LBS.

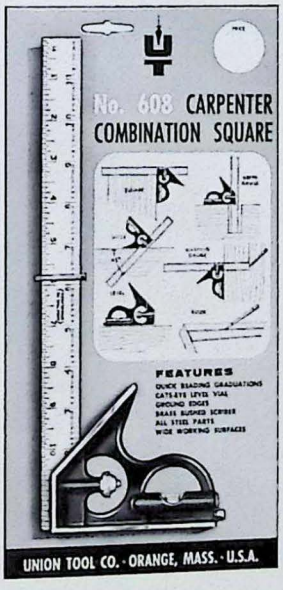
## No. 710

Rust-resistant square with black non-glare blade. White filled graduations. Black japan finish on head. Similar to No. 705, but without center head. Individually boxed.

12" SIZE ONLY SHIPPING WEIGHT: ¾ LB.

PACKED 20 BOXES IN A CASE WEIGHT: 16 LBS.

## No. 608

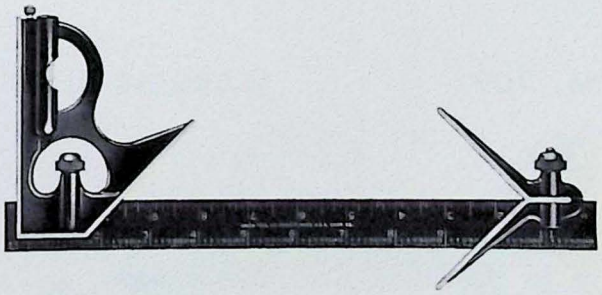



Best quality square carded for impulse buying. Machine graduated 12" blade with easy reading figures and ground edges. Cats-eye level vial and steel components.

PACKED 20 CARDS IN A CARTON

SHIPPING WEIGHT: 16 LBS.

## No. 705



Fully rust-resistant square complete with center head. Durable black japan finish on square head and center head. Unique jet black blade has clear white figures and graduations for "eye-ease" in reading in sunlight or shadow. Blade has ground edges and ends. Center head invaluable for lathe work, checking, and centering. Individually packed in red set up box.

12" SIZE ONLY SHIPPING WEIGHT: 1 LB.

PACKED 16 BOXES IN A CASE WEIGHT: 18 LBS.

## STAINLESS SQUARE

**— NEW —**
**LOW PRICE**

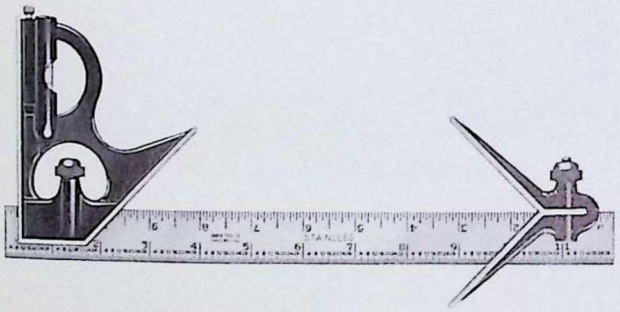
**STAINLESS STEEL BLADE**

**No. 707**

A professional quality, RUST-PROOF square, colorfully carded for impulse buying. Ground edges, stainless steel blade, and "easy reading" graduations.

PACKED
20 CARDS IN A CARTON
SHIPPING WEIGHT: 16 LBS.

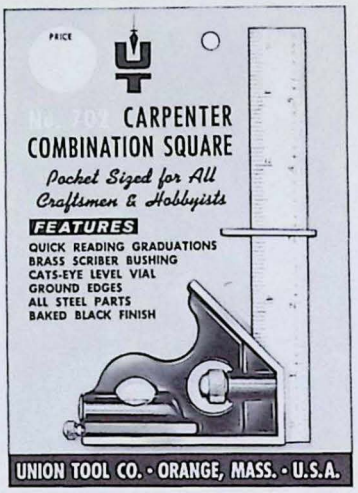
**No. 709** **STAINLESS BLADE**



Best quality square with RUST-PROOF stainless steel blade. Ground edges, "easy read" graduations. Center head aids lathe work, centering and checking. Individually packed in red set up box.

12" SIZE ONLY SHIPPING WEIGHT: 1 LB.
PACKED 16 BOXES IN A CASE WEIGHT: 18 LBS.

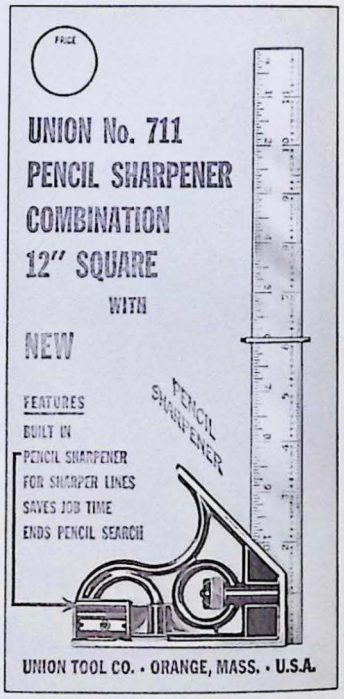
**No. 702 6" SQUARE**




6 inch machine graduated steel blade. Zinc die cast head with black enamel finish. Level and scriber. Pocket sized square with appeal and accuracy for everyone. Square is stapled to attractive display card for "self-service," "impulse" sales.

PACKED 20 CARDS IN A CARTON
SHIPPING WEIGHT: 9 LBS.

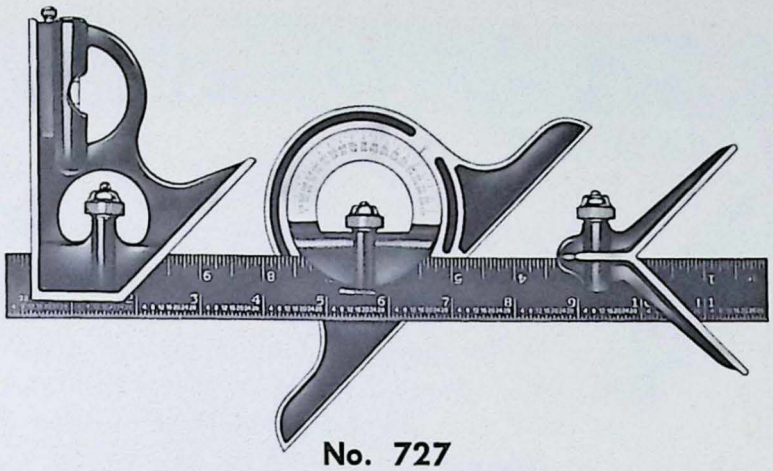
**No. 711**




A new, exclusive product. 12" carded square with a built-in pencil sharpener. Zinc die cast square head with black japan finish. Machine graduated blade with easy reading figures.
Stapled to colorful display card for impulse buying.

PACKED 20 CARDS IN A CARTON
SHIPPING WEIGHT: 16 LBS.

# HOBBYIST SET – PROTRACTOR

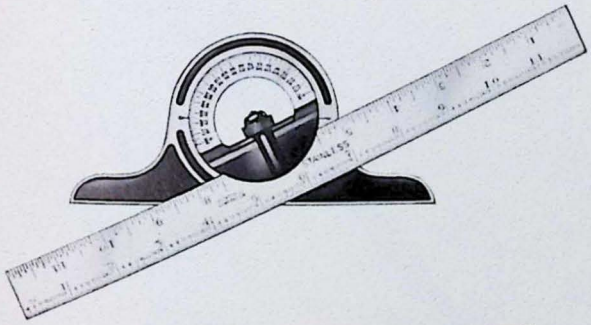


*New Exclusive*

## No. 727

Recognized as perhaps the most useful, basic tool for any craftsman, mechanic, and machinist. The high cost of the full precision item has prevented many tool users from being able to purchase this type of item. Union now brings you a quality hobbyist set that is within the reach of all. Less than half the price of the precision set, this set is ideal for the apprentice, mechanic, machinist, home craftsman, plumber, electrician, carpenter, millwright, – anyone who works with tools. A perfect teaching tool for all shops and factories, and schools. All parts are rust proof. Zinc die cast square and miter head, center head, and protractor. Black blade with clear white graduations and figures is easy to read in all lights. Blade and square accuracy is to Government Specifications for Type I carpenters combination squares. The die cast protractor is a Union exclusive and is squal in accuracy to best machinist quality. It is double indexed and graduated 180 degrees in both directions. Protected level vial on back.

PACKED 1 IN A BOX SHIPPING WEIGHT 1¾ LBS.

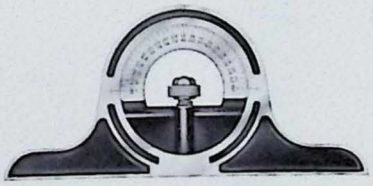


## No. 726 PROTRACTOR W/BLADE

Hundreds of uses: laying out angles, measurings angles, an inclinometer, height gauge, depth gauge, square, rule, level, bevel, etc.

New zinc die cast protractor, double indexed, graduated 180 degrees in both directions. Supplied with Stainless steel blade. Blade has ground edges, graduated 16ths and 32nds, 8ths and 16ths.

PACKED 1 IN A BOX SHIPPING WEIGHT: 1 LB.



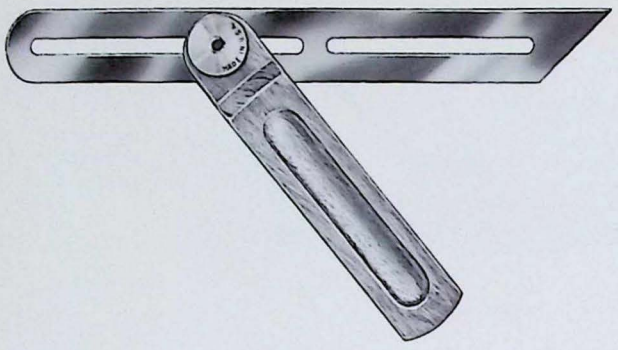
## No. 725 PROTRACTOR

Will fit any Union carpenters combination square, or any blade with a thickness of approx. .084" or less. Doubles the versatility of any square. Protected level vial on back. Rust proof parts. Double indexed, 180° in both directions.

PACKED 1 IN A BOX SHIPPING WEIGHT: ⅝ LB.

## CARPENTERS BEVEL SQUARES

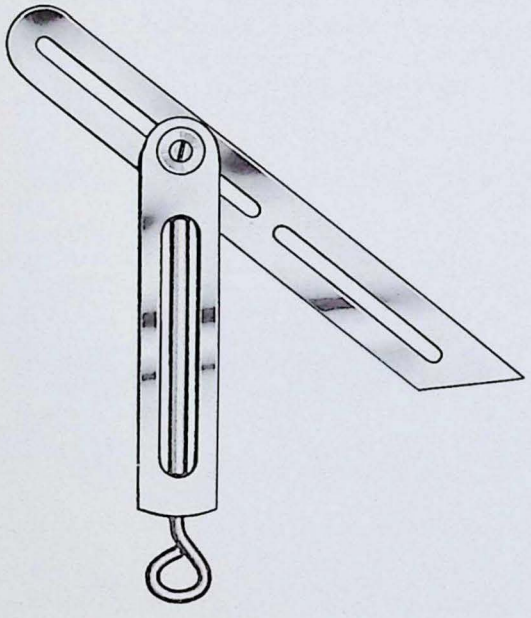
### No. 717



8 inch blade with black, rust-resistant finish. Lacquered Goncalo handle. Knurled brass locking nut.

PACKED 4 IN A BOX SHIPPING WEIGHT: 1 LB.

### No. 718



Highly finished 8 inch blade. Plated and polished one piece cast iron handle. Locking device operated by turning knob at end of handle.

PACKED 3 IN A BOX SHIPPING WEIGHT: 1¾ LBS.

## AWLS

### No. 315

New

### No. 315 SCRATCH AWL

Good quality scratch awl, carded for pegboard display. Full hardened 3" point, polished ferrule. Black hardwood head. 5" overall length. 10 cards per box.

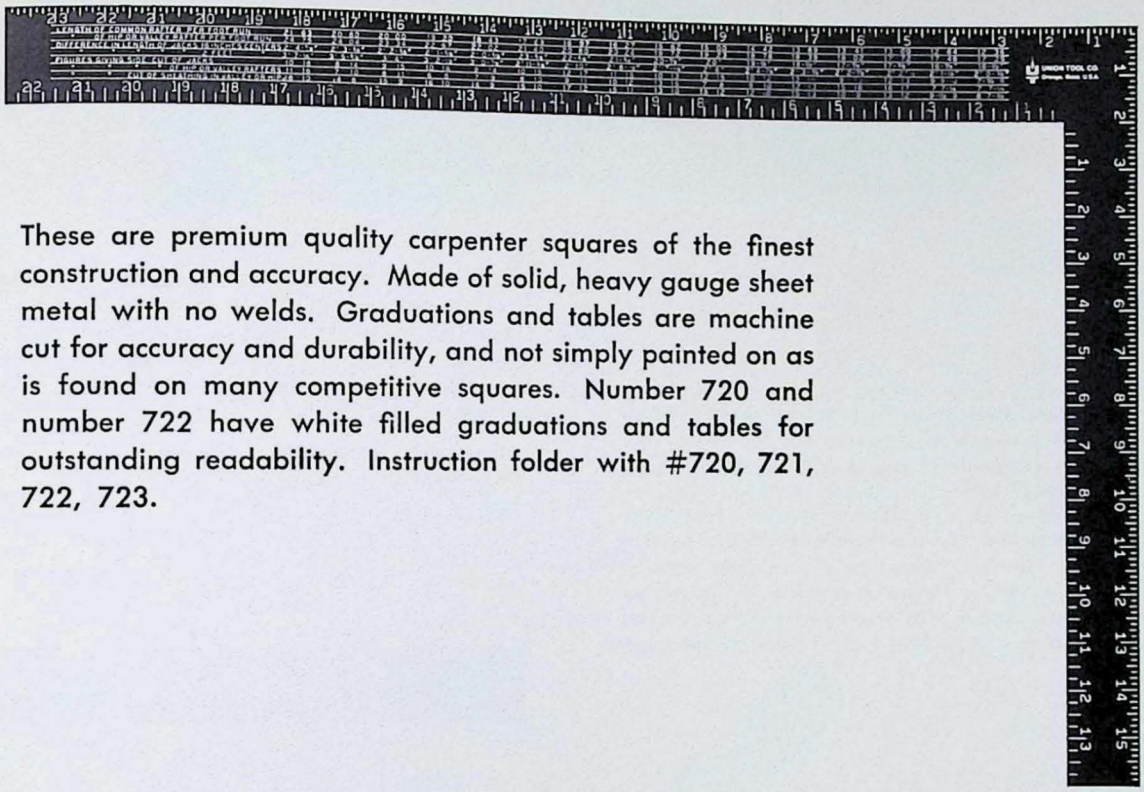
### No. 316

New

### No. 316 SCRATCH AWL

Best quality scratch awl, with 4" full hardened point. Point runs completely through handle and fits into bolster. Lacquered head with plated ferrule. 6¾" overall length. Carded for impulse sales. 10 cards per box.

# RAFTER-FRAMING SQUARES



These are premium quality carpenter squares of the finest construction and accuracy. Made of solid, heavy gauge sheet metal with no welds. Graduations and tables are machine cut for accuracy and durability, and not simply painted on as is found on many competitive squares. Number 720 and number 722 have white filled graduations and tables for outstanding readability. Instruction folder with #720, 721, 722, 723.

| NUMBER | FINISH | SIZE | NUMBER PER CARTON | CARTON WEIGHT | GRADUATIONS | TABLES |
|---|---|---|---|---|---|---|
| **720** | Copper | 16″ x 24″ | 3 | 7 | 1/16″, 1/12″, 1/10″, 1/8″ | Rafter Framing Rule, Octagon Scale, Brace Measure, 1/100 Scale, Essex Board Measure. |
| **721** | Aluminum | 16″ x 24″ | 3 | 3 | 1/16″, 1/12″, 1/10″, 1/8″ | |
| **722** | Blued | 16″ x 24″ | 6 | 11 | 1/8″, 1/4″ | Rafter Framing Rule, Essex Board Measure. |
| **723** | Polished | 16″ x 24″ | 6 | 11 | 1/8″, 1/4″ | Essex Board Measure, Reverse Reading Rule. |
| **724** | Polished | 8″ x 12″ | 6 | 3¾ | 1/8″, 1/4″ | NONE |

## HANDSAWS

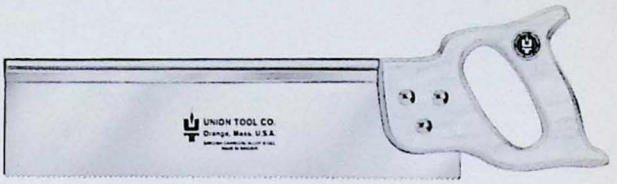
Professional quality saws, made from special Swedish alloy, charcoal steel. Blades are heat treated and tempered, such that if a nail is accidentally cut, it will not harm blade. The bright polished finish is protected with a baked on plastic finish, and is always "factory fresh." New blade shape is a favorite with both professional carpenters and home craftsmen. Extreme taper point facilitates starting cuts, and is essential in cramped conditions. Lacquered, beech handles are affixed with bright brass screws. Packed two per box. Shipping weight 4 lbs. Recommended set, .0098".

| NUMBER | LENGTH | PPI. | WIDTH POINT | WIDTH BUTT |
|---|---|---|---|---|
| **3205** | 26" | 5½ | ¾" | 5⅞" |
| **3208** | 26" | 8 | ¾" | 5⅞" |
| **3210** | 26" | 10 | ¾" | 5⅞" |

Take special note of this 20" cabinet-maker's model, as it is a real volume item. The same superior quality features of its larger brothers, but with added convenience. It is extremely popular in this 10 Ppi. and gives an excellent finish cut. Packed two per box. Shipping weight 3 lbs. Recommended set, .0098".

| NUMBER | LENGTH | PPI. | WIDTH POINT | WIDTH BUTT |
|---|---|---|---|---|
| **3110** | 20" | 10 | ¾" | 5⅛" |

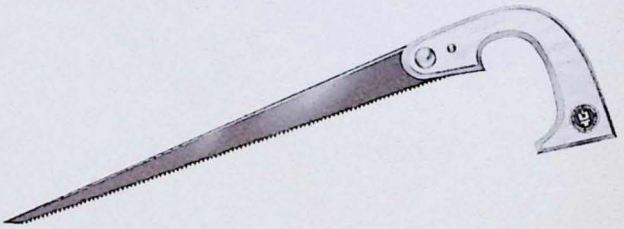
## BACK SAW




Swedish, charcoal alloy, steel blade is bright polished and protected with plastic finish. Blade is heat treated and tempered. Round steel back is removable. Ideal for a U-Type open mitre box, or as a "free-hand" cabinet-maker's saw. Packed two per box. Shipping weight, 3 lbs. Recommended set, .0079".

| NUMBER | LENGTH | PPI. | WIDTH |
|---|---|---|---|
| **3414** | 14 | 11 | 3¾" |

## COMPASS SAW

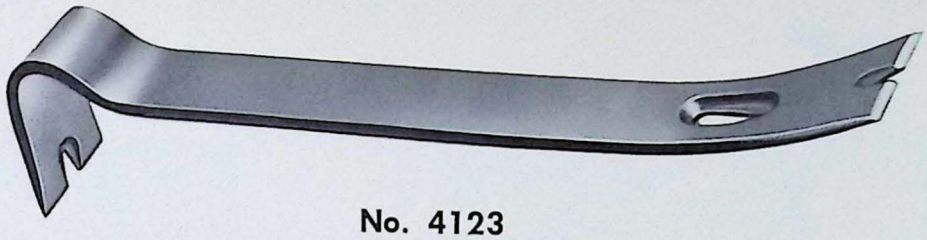


An essential tool for everyone's tool box. A quality, heavy duty, compass saw for long service. Blued finish blade is usable in normal and reverse position. Versatile 8 Ppi. Lacquered birch handle. Packed two per box. Shipping weight, 1½ lbs. Recommended set, .0079".

| NUMBER | LENGTH | PPI. | WIDTH POINT | WIDTH BUTT |
|---|---|---|---|---|
| **3514** | 12" | 8 | ⅜" | 1 3/16" |

*New Items*
*Full Discount Applies*

## PRY BAR

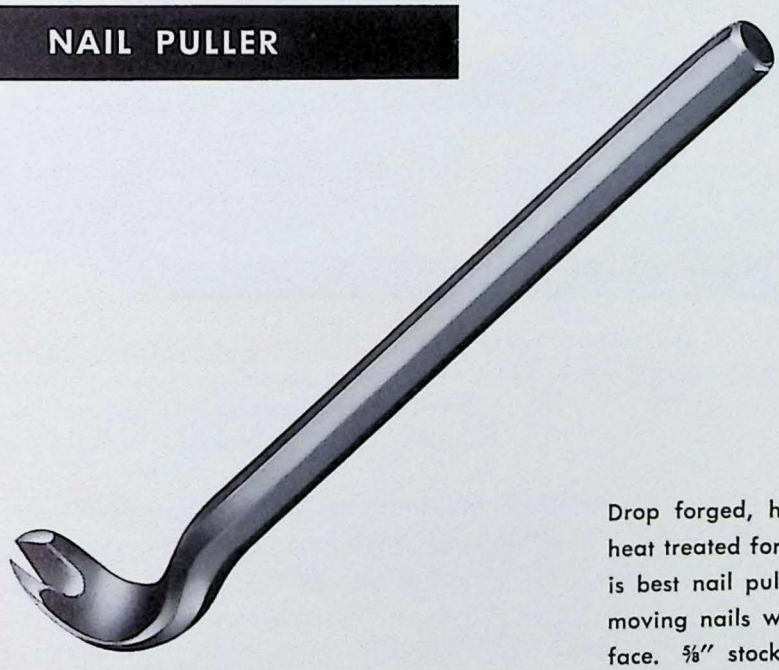


No. 4123

A high quality, drop forged utility bar for all prying, ripping, pulling and scraping. Made of heavy spring tempered stock, heat treated for toughness and long life. Cutting edges are ground and beveled after application of tough black enamel.

| NUMBER | ITEM | DIMENSIONS | PACK | WEIGHT EACH | SUG. LIST |
|---|---|---|---|---|---|
| 4123 | Pry Bar | 14″ x 1⅜″ | 6 | 1½ lbs. | $2.69 |

## NAIL PULLER

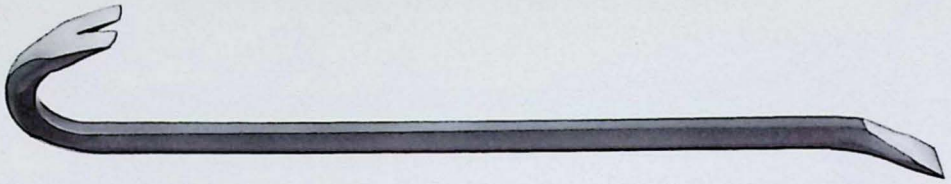


No. 4120

Drop forged, hi-carbon hexagonal stock, fully heat treated for durability. Special smooth claw is best nail pulling device ever devised for removing nails with minimum of marring to surface. ⅝″ stock and 10″ length provide ideal grip and leverage. Completely protected with tough vinyl enamel.

| NUMBER | ITEM | DIMENSIONS | PACK | WEIGHT EACH | SUG. LIST |
|---|---|---|---|---|---|
| 4120 | Nail Puller | 10″ x ⅝″ | 12 | 1⅛ lbs. | $2.19 |

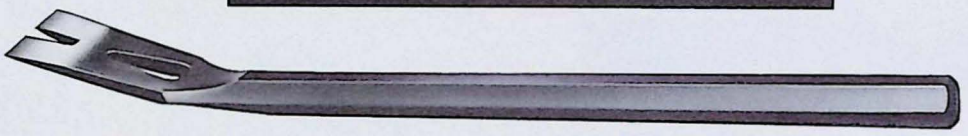
## WRECKING BARS



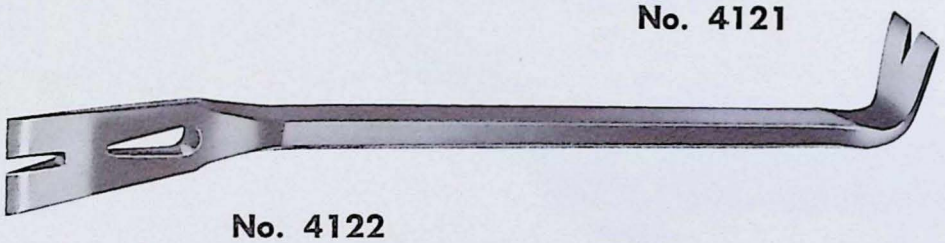
High quality, drop forged wrecking bars made of hi-carbon hexagonal stock. Working ends are fully heat treated for long life. Finished in black enamel with polished and ground ends. Beveled nail slot for sure grip.

| NUMBER | ITEM | DIMENSIONS | PACK | WEIGHT EACH | SUG. LIST |
|---|---|---|---|---|---|
| **4124** | Wrecking Bar | 24″ x ¾″ | 6 | 3½ lbs. | $3.29 |
| **4130** | Wrecking Bar | 30″ x ¾″ | 6 | 4½ lbs. | 3.74 |

## RIPPING CHISELS



**No. 4121**



**No. 4122**

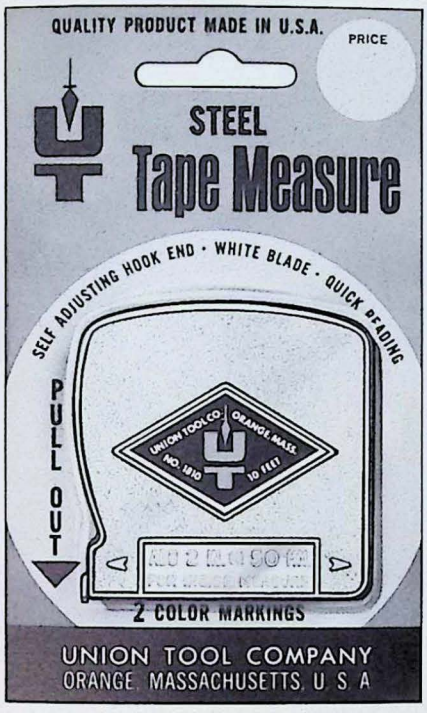
Designed for maximum ripping performance, these tools are among the best quality drop forged chisels on the market. Heat treated, 30 degree working ends are just the right angle for correct prying and ripping. No. 4122 has 90 degree off-set head for added versatility. Made of hi-carbon ¾″ hexagonal stock. Enameled with polished working ends.

| NUMBER | ITEM | DIMENSIONS | PACK | WEIGHT EACH | SUG. LIST |
|---|---|---|---|---|---|
| **4121** | Ripping Chisel | 18″ x ¾″ | 6 | 2¼ lbs. | $2.69 |
| **4122** | Off-Set R. Chisel | 18″ x ¾″ | 6 | 2½ lbs. | 2.99 |

- BLISTER CARDED
- BRIGHT UNION COLORS

# STEEL TAPE MEASURES

New


QUALITY PRODUCT MADE IN U.S.A.
PRICE
STEEL
Tape Measure
SELF ADJUSTING HOOK END • WHITE BLADE • QUICK READING
PULL OUT
UNION TOOL CO. ORANGE, MASS. NO. 1810 10 FEET
2 COLOR MARKINGS
UNION TOOL COMPANY
ORANGE, MASSACHUSETTS, U. S. A

Union Tool Co. again brings you a quality tape line that is competitively priced. These tapes are made to U.S. government standards. Colorfully blister carded. Two color printing on white blades, with inches graduated in jet black and the feet and stud centers in brilliant red. All parts are plated for rust resistance. Smooth internal "push-pull" blade action. Chromed die cast cases.

## No. 1816 POWER TAPE

A revolutionary automatic tape with patented features not found in other "power" tapes. Automatic measurement control locks tape as it is extended. The internal centrifugal brake prevents "snap back". The tape returns into the case at any desired speed controlled by a single fingertip lever on base. Heavy duty ¾" white blade has direct inside measurement reading and circumference, diameter scale and decimal chart on back of blade. Belt clip on full chromed case.

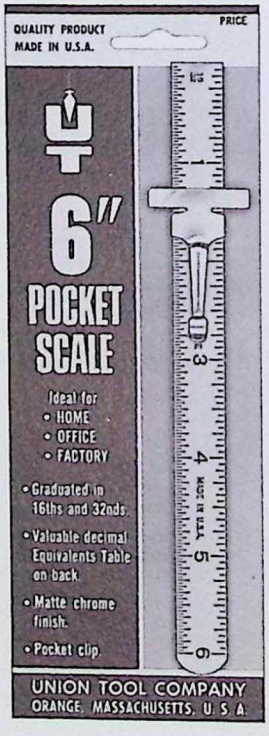
| NUMBER | LENGTH | BLADE WIDTH | PACK | PACK WEIGHT | SUG. LIST |
|---|---|---|---|---|---|
| 1806 | 6 ft. | ¼" | 12 | 2 lbs. | $1.20 |
| 1808 | 8 ft. | ½" | 12 | 3½ lbs. | $1.50 |
| 1810 | 10 ft. | ½" | 12 | 4 lbs. | $1.76 |
| 1812 | 12 ft. | ½" | 12 | 4 lbs. | $2.00 |
| **POWER TAPE** | | | | | |
| 1816 | 16 ft. | ¾" | 2 | 1¼ lbs. | $5.50 |

- **SECURELY BLISTER CARDED**
- **BRIGHT ORANGE & BLACK CARD**

These are quality tape measures, colorfully blister carded for modern merchandising. The white coated steel blades are pretreated for rust protection. Two color printing with red stud centers indicated. All parts are heavily plated. The welded steel cases are rust protected and covered with gleaming back vinyl leatherette. Push pin handle operation. Deep gripping end hook for holding power.

| NUMBER | LENGTH | BLADE WIDTH | PACK | PACK WEIGHT | SUG. LIST |
|---|---|---|---|---|---|
| **1850** | 50 ft. | ⅜" | 6 | 4½ lbs. | $5.90 |
| **1900** | 100 ft. | ⅜" | 6 | 6½ lbs. | $7.98 |

*New*




## No. 1801

A handy measuring rule when high precision is not necessary. Graduated in 1/16" and 32nds, with decimal table on back. Matte chrome finish. Depth Gauge pocket clip. Colorfully carded. 36 units per box. Minimum order is box quantity.

# ★FEDERAL STOCK NUMBER SHEET

| UNION NO. | FEDERAL STOCK NO. | SPECIFICATION |
|---|---|---|
| **SPRING DIVIDERS** | | |
| 10—2″ | 5210-267-3372 | GGG-D-351 |
| 10—3″ | 5210-266-7042 | Type A, Spring Class 2 |
| 10—4″ | 5210-266-7038 | |
| 10—6″ | 5210-263-0378 | |
| 10—8″ | 5210-263-0376 | |
| 10—10″ | 5210-267-3371 | |
| **OUTSIDE SPRING CALIPERS** | | |
| 12—4″ | 5210-229-3047 | GGG-C-95 |
| 12—6″ | 5210-229-3048 | Type II, Class 1 |
| 12—8″ | 5210-229-3049 | |
| **INSIDE SPRING CALIPERS** | | |
| 14—3″ | 5210-229-3076 | GGG-C-95 |
| 14—4″ | 5210-229-3062 | Type I, Class 1 |
| 14—6″ | 5210-229-3051 | |
| 14—8″ | 5210-229-3052 (3060) | |
| **OUTSIDE FIRM JOINT CALIPERS** | | |
| 15 | — | GGG-C-95<br>Type II, Class 4 |
| **INSIDE FIRM JOINT CALIPERS** | | |
| 17 | — | GGG-C-95<br>Type I, Class 4 |
| **HERMAPHRODITE CALIPERS** | | |
| 19—6″ | 5210-229-3026 | GGG-C-95 |
| 19—8″ | 5210-294-4587 | Type III, w/adj. pt. |
| **SCRIBERS** | | |
| 318 | 5120-596-1543 | GGG-S-131, Type II, Class 2 |
| 321 | — | GGG-S-131, Type II, Class 3 |
| 325 | 5120-221-7063 | GGG-S-131, Type II, Class 1 |
| **DEPTH GAUGE** | | |
| 330 | 5210-221-1902 | GGG-G-17, Type II, Class 1 |
| **MACHINIST SQUARES** | | |
| 112-14 | 5210-221-2062 | GGG-S-656<br>Type VI, Class B<br>Style A Grad. |
| 124-14 | 5210-288-7706 | GGG-S-656<br>Type VI, Class B<br>Style A Grad. |
| 206-24 | 5210-224-9937 | GGG-S-656 |
| 212-14 | 5210-221-2068 | Type VI, Class A |
| 212-24 | 5210-221-2064 | Style A Grad. |
| 212-34 | 5210-221-2066 | |
| | 5210-540-3513 | |
| 212-16 | 5210-078-8948 | GGG-S-656 |
| 212-26 | 5210-078-8947 | Type VI, Class A |
| 209-36 (Special) | 5210-078-8946 | Style B Grad. |
| **MACHINIST STEEL RULES** | | |
| 405-6″—#4 grad. | 5210-234-5223 | GGG-R-791 |
| 405-6″—#7 grad. | 5210-273-1965 | Type IV, Class 1 |
| 405-12″—#4 grad. | 5210-234-5224 | |
| 405-18″—#4 grad. | 5210-243-3367 | |
| 401-12″—#4 grad. | 5210-293-3515 | Type IV, Class 1,<br>W/pos. hook |

★These are the tool items that we have had specific experience in supplying to the Government. Please check with our Factory Sales Office on any other items.

## COMPARATIVE TOOL NUMBERS

| UNION # | STARRETT # | LUFKIN # | BROWN & SHARPE # | SCHERR-TUMICO # | MILLERS FALLS # |
|---|---|---|---|---|---|
| Spring Hermaphrodite Calipers #8-4", 6", 8" | ——— | ——— | ——— | ——— | 530 |
| Spring Dividers #10-2", 3", 4", 5", 6", 8", 10" | 83 | 40 | 813 | ——— | 500 |
| Outside Spring Calipers #12-2", 3", 4", 5", 6", 8" | 79 | 41 | 814 | ——— | 520 |
| Inside Spring Calipers #14-2", 3", 4", 5", 6", 8" | 73 | 42 | 815 | ——— | 510 |
| Outside Firm Joint Caliper #15-4", 6", 8" | 26 | 11 | 821 | ——— | ——— |
| Wing Dividers #16 | 85A | ——— | ——— | ——— | 205 |
| #16-A | 92-7" | ——— | ——— | ——— | 204 |
| #16-B | ——— | ——— | ——— | ——— | 203 |
| #16-C | ——— | ——— | ——— | ——— | ——— |
| Inside Firm Joint Caliper #17-4", 6", 8" | 27 | 12 | ——— | ——— | ——— |
| Hermaphrodite Firm Joint Caliper #19-4", 6", 8" | 563 | A-17 | 835 | ——— | ——— |
| Tap Wrenches #25-0 | 93-B | ——— | ——— | ——— | 10 |
| #25-1 | 93-C | ——— | ——— | ——— | 11 |
| #25-2 | ——— | ——— | ——— | ——— | 12 |
| Pipe Reamers #26, 27, 28 | ——— | ——— | ——— | ——— | 171, 172, 173 |
| #30—Nail Sets | 116 | ——— | ——— | ——— | 310 |
| #32—Center Punches | 117 | 71E | 765 | ——— | 141 |
| #34—Drive Taper Punches | ——— | ——— | ——— | ——— | ——— |
| #36—Prick Punches | 816 | ——— | ——— | ——— | 167 |
| #38—Drive Pin Punches | 565 | 72 | ——— | ——— | 681 |
| 48 Long Drive Pin Punches | 248 | 172 | ——— | ——— | ——— |
| 49 Sets of Long Punches | S248 | 172S | ——— | ——— | ——— |
| Thread Gauge #50 | 6 | 74D | 632 | ——— | 436 |
| #51 | 40 | 74A | 630 | ——— | ——— |
| #52 | 473 | ——— | ——— | ——— | ——— |
| #60—Square Head Nail Sets | 800 | ——— | ——— | ——— | 600 |
| Machinist Squares #100 Series | ——— | ——— | | | |
| Without Center Head 12", 18", 24" | 33H | 35 | 401 | 3029 | ——— |
| With Center Head 12", 18", 24" | 33HC | 35C | 400 | 3035 | ——— |
| Combination Sets 12", 18", 24" | 433 | 535 | 425 | 3034 | ——— |
| Machinists Squares #200 Series Without Center Head 4", 6", 12", 18", 24" | 11H | 25 | 403 | 3039 | 371, 373 |
| With Center Head 4", 6", 12", 18", 24" | 11HC | 25C | 402 | 3045 | 261, 362, 363 |
| Combination Sets 12", 18", 24" | 9 | 525 | 426 | 3054 | 390, 391, 3910 |

## COMPARATIVE TOOL NUMBERS

| UNION # | STARRETT # | LUFKIN # | BROWN & SHARPE # | SCHERR-TUMICO # | MILLERS FALLS # |
|---|---|---|---|---|---|
| Drill Gauges | | | | | |
| #85 | 185 | ——— | 707 | ——— | ——— |
| #86 | 187 | ——— | ——— | ——— | ——— |
| #87 | 198 | ——— | ——— | ——— | ——— |
| Layout Protractors | | | | | |
| #227 | C183 | C890 | ——— | 1170 | ——— |
| #228 | C182 | C891 | ——— | ——— | ——— |
| Thickness Gauge | | | | | |
| #300-C | 71 | ——— | ——— | ——— | 6 |
| #300-DL | 66 | 126 | ——— | 802 | 326 |
| #300-F | 172A | ——— | 642 | ——— | 9 |
| #301 | 172B | 208T | 648 | ——— | 91 |
| #310—Key Seat Rule Blocks | 298 | ——— | 377 | ——— | ——— |
| #317—Scribers | 70A | 87A | 778-1 | ——— | 75 |
| Replaceable Point Scriber | | | | | |
| #318 | 67 | 88 | 778-3 | ——— | ——— |
| #319 | 67 | 88 | ——— | ——— | ——— |
| #320—Single Point Scriber | 70 | 87A | 778-2 | ——— | 58 |
| #321—Scriber | 67 | 88B | ——— | ——— | 62 |
| #322—Scriber & Packing Hook | ——— | ——— | ——— | ——— | ——— |
| Toolmakers Screwdriver | | | | | |
| #323 | 553A | 187A | ——— | ——— | ——— |
| #324 | 553B | 187B | ——— | ——— | ——— |
| #325—Adj. Sleeve Scriber | 68 | ——— | ——— | ——— | ——— |
| Wiggler | | | | | |
| #326 | 828 | 89 | ——— | ——— | ——— |
| #327 | 832 | 189 | ——— | ——— | ——— |
| Depth Gauges | | | | | |
| #330 | 237 | 510 | 615-60 | ——— | ——— |
| #331 | 236 | 511A | 617-62 | 1160-6-A | 80 |
| #401—Wide Hook Rules 6", 12", 18", 24" | H604R | H-2204R | 320 | ——— | 966 |
| #405—Tempered Rules 1", 2", 3", 4", 6", 12", 18", 24" | 604R | 2204-R | 315 | 43 Chrome only | 866 |
| #420—Flexible Steel Rules 6"—#10 Grad. | 310 | 2110 | 306 | ——— | 264 |
| Flexible Steel Rules #4 Grad. #425-6", 12", 18" | ——— | 2110R | ——— | 58 Chrome only | ——— |
| Flexible Steel Rules #16 Grad. #426-6", 12", 18" | ——— | ——— | ——— | ——— | ——— |
| Flexible Steel Rules #3 Grad. #426S-6" | ——— | 2103R | ——— | 47 Chrome only | ——— |
| 430—Narrow Rules 6"—#10 Grad. | 610N | 2310 | 303 | ——— | 274 |
| #431—Narrow Hook Rules | H610N | H2310 | ——— | ——— | ——— |
| #441—Center Gauge | 391 | 36 | 650 | 950 | 438 |
| #445—Scratch Gauge | 29 | ——— | ——— | ——— | ——— |
| Slide Caliper Rule #453-6" | ——— | ——— | ——— | ——— | 306-6 |
| Machinists Clamps | | | 754B | ——— | ——— |
| #550 | 161-AA | 910B | 754C | ——— | ——— |
| #551 | 161-B | 910C | 754D | ——— | ——— |
| #552 | 161-C | 910D | | | |

## COMPARATIVE TOOL NUMBERS

| UNION # | STARRETT # | LUFKIN # | BROWN & SHARPE # | SCHERR-TUMICO # | MILLERS FALLS # |
|---|---|---|---|---|---|
| #625-40 Adjustable Try Square | 61 | ——— | ——— | ——— | ——— |
| #625-4", 6"—Double Adjustable Square (No Level) | 13 | 26A | ——— | ——— | 304, 316 |
| Micrometers | | | | | |
| #801 | 436P-1" | 1911 | ——— | ——— | 701 |
| #802 | 436P-2" | 1912 | ——— | ——— | 712 |
| #811 | 436FL-1" | 1961 | ——— | 851LR | 701R |
| #812 | 436FL-2" | 1962 | 599-20-6 | 852LR | 712R |
| #813 | 436FL-3" | 1963 | 599-30-6 | 853LR | 723R |
| #814 | 436FL-4" | 1964 | 599-40-6 | 854LR | 734R |
| #819 | T436FL-1" | 1961V | ——— | 851LRV | 7010R |
| #820 | T436FL-2" | 1962V | ——— | 852LRV | 7120R |
| #821C | 230FL | 1661 | ——— | ——— | 112R |
| #822C | 2FL | 1662 | 599-20-5 | ——— | 20R |
| #831CT | 230XFL | CT1661V | 599-1 | C-901LRTV | 902RK |
| #832CT | T2XFL | CT1662V | 599-20-1 | C-902LRTV | ——— |
| #833 | 440-3L | 513F | ——— | D-2½-3 | 31 |
| #834 | 445B-3L | 514F | ——— | D-4-3 | 32 |
| #836 | 124A w/handle | 80A w/handle | 264 | ——— | 618 |
| #837 | 124B w/handle | 80B w/handle | 265 | ——— | 1218 |
| #840—Speed Indicator | 104 | ——— | ——— | ——— | 440 |
| #850—Surface Gauge | 57A | 522A | 92 | 251 | 889 |
| #1000—Tool Kit | 900 | 1 | ——— | ——— | ——— |
| Dial Indicators | | | | | |
| #891 | 196A | 399A | 7740 | 1630 | ——— |
| #892 | ——— | ——— | ——— | ——— | ——— |
| #893 | 711F | 49A | 7030 | F-5 | ——— |
| #897 | ——— | ——— | 7032 | FX-13 | ——— |
| #898 | ——— | ——— | 7033 | FX-15 | ——— |

| UNION # | KENNEDY # | UNION STEEL CHEST # |
|---|---|---|
| Tool Boxes | | |
| #1250 | 520 | MT-7 |
| #1260 | 620 | MT-3 |

## UNION REPRESENTATIVES

| NAME | ADDRESS | TERRITORY | PHONE |
|---|---|---|---|
| Union Tool Co. (Factory Stock) | 48 E. River St., Orange, Mass. 01364 | Home Office | Area 617 — 544-2532<br>544-2533 |
| J. Lester Barlow | 551 E. South Temple, Salt Lake City, Utah 84100 | Utah, Mont., Wym., Colo. | Area 801 — 363-5456 |
| Dan J. Creedon | 60 Inner Dr., St. Paul, Minn 55116 | N. Dak., S. Dak., Minn., No. Wisc. | Area 612 — 699-6446 |
| The Devere Co. (Warehouse Stock) | 273 West 7th St., San Pedro, Calif. 90731 | S. Calif., Ariz., N. Mexico | Area 213 — 547-1109 |
| J. L. DeLell (Warehouse Stock) | 244 Ninth St., San Francisco, Calif. 94103 | N. Calif., Wash., Ore., Idaho, Nev. | Area 415 — 863-4382 |
| Henry Fitzhugh | 6346 Torrington Rd., Nashville, Tenn. 37205 | Tenn., Ky., Ala., Miss. | Area 615 — 352-0261 |
| John J. Horan, Sales Associate | P. O. Box 581, Ardmore, Pa. 19003 | E. Penn., Md., Del. | Area 215 — 449-1058 |
| Joslyn Brothers Co. | 9 Blake St., P. O. Box 697 Northboro, Mass. 01532 | R. I., Me., Vt., N. H., Mass., N. Conn. | Area 617 — 393-3092 |
| Sales Associates | 7522 Fairway Dr. N. E., Seattle, Wash. 98115 | Alaska | Area 206 — 524-1429 |
| Mill Factor Products Co. | 53 W. Broadway, New York, N. Y. 10007 | N. Y., N. J., S. Conn. | Area 212 — 227-8552 |
| Jack C. Lyle & Assoc. | 408 Glen Bldg., Atlanta, Ga. 30303 | Ga. | Area 404 — 688-5544 |
| W. H. Paradise & Assoc. | 5845 W. North Ave., Chicago, Ill. 60639 | Ill., S. Wisc., Ind. | Area 312 — 237-8034 |
| M. Alden Porter | P. O. Box 6372, 10271 E. Bay Harbor Dr. Miami, Florida 33154 | Fla. | Area 305 — 865-5247 |
| Hugh Roll (Warehouse Stock) | 6045 Main St., Kansas City, Mo. 64113 | Mo., Kan., Nebr., Iowa | Area 816 — 363-0240 |
| Edgar G. Schneider | 18551 Riverside Dr., Birmingham, Mich. 48009 | Mich. | Area 313 — 644-5102 |
| Jerry T. Schwab | 3308 St. John's Dr., P. O. Box 8013 Dallas, Texas 75205 | Texas, Okla., Ark., La. | Area 214 — 521-2355 |
| Selinger Associates, Inc. | 5650 B 3rd St., N. E., Washington D. C. 20011 | D. C., Va., N. Caro., S. Caro. | Area 202 — 529-2044 |
| Whitman & Wolfe | 6485 Evening St., Worthington, Ohio 43085 | Ohio | Area 614 — 888-0436 |

# DECIMAL EQUIVALENTS

| | |
|---|---|
| 1/64 | .015625 |
| 1/32 | .03125 |
| 3/64 | .046875 |
| 1/16 | .0625 |
| 5/64 | .078125 |
| 3/32 | .09375 |
| 7/64 | .109375 |
| 1/8 | .125 |
| 9/64 | .140625 |
| 5/32 | .15625 |
| 11/64 | .171875 |
| 3/16 | .1875 |
| 13/64 | .203125 |
| 7/32 | .21875 |
| 15/64 | .234375 |
| 1/4 | .250 |
| 17/64 | .265625 |
| 9/32 | .28125 |
| 19/64 | .296875 |
| 5/16 | .3125 |
| 21/64 | .328125 |
| 11/32 | .34375 |
| 23/64 | .359375 |
| 3/8 | .375 |
| 25/64 | .390625 |
| 13/32 | .40625 |
| 27/64 | .421875 |
| 7/16 | .4375 |
| 29/64 | .453125 |
| 15/32 | .46875 |
| 31/64 | .484375 |
| 1/2 | .500 |

| | |
|---|---|
| 33/64 | .515625 |
| 17/32 | .53125 |
| 35/64 | .546875 |
| 9/16 | .5625 |
| 37/64 | .578125 |
| 19/32 | .59375 |
| 39/64 | .609375 |
| 5/8 | .625 |
| 41/64 | .640625 |
| 21/32 | .65625 |
| 43/64 | .671875 |
| 11/16 | .6875 |
| 45/64 | .703125 |
| 23/32 | .71875 |
| 47/64 | .734375 |
| 3/4 | .750 |
| 49/64 | .765625 |
| 25/32 | .78125 |
| 51/64 | .796875 |
| 13/16 | .8125 |
| 53/64 | .828125 |
| 27/32 | .84375 |
| 55/64 | .859375 |
| 7/8 | .875 |
| 57/64 | .890625 |
| 29/32 | .90625 |
| 59/64 | .921875 |
| 15/16 | .9375 |
| 61/64 | .953125 |
| 31/32 | .96875 |
| 63/64 | .984375 |
| 1 | 1.000 |

# Tap Drill Sizes

*For Machine Screw Threads*

## 75% Depth of Thread

**These tables give the exact size of the hole, expressed in decimals, that will produce a 75% depth of thread, and also the nearest regular stock drill to this size. Holes produced by these drills are considered close enough for any commercial tapping.**

$$\text{Diameter of Tap, Minus } \frac{.974}{\text{No. threads per Inch}} = \text{Diameter of Hole}$$

| Tap Size | Threads per Inch | Diameter Hole | Drill | Tap Size | Threads per Inch | Diameter Hole | Drill |
|---|---|---|---|---|---|---|---|
| 0 | 80 | .048 | 3/64 | 10 | 32 | .160 | 21 |
| 1 | 72 | .060 | 53 | 10 | 30 | .158 | 22 |
| 1 | 64 | .058 | 53 | 10 | 28 | .155 | 23 |
| 2 | 64 | .071 | 50 | 10 | 24 | .149 | 25 |
| 2 | 56 | .069 | 50 | 12 | 28 | .181 | 14 |
| 3 | 56 | .082 | 45 | 12 | 24 | .175 | 16 |
| 3 | 48 | .079 | 47 | 14 | 24 | .201 | 7 |
| 4 | 48 | .092 | 42 | 14 | 20 | .193 | 10 |
| 4 | 40 | .088 | 43 | 16 | 22 | .224 | 2 |
| 4 | 36 | .085 | 44 | 16 | 20 | .219 | 7/32 |
| 5 | 44 | .103 | 37 | 16 | 18 | .214 | 3 |
| 5 | 40 | .101 | 38 | 18 | 20 | .245 | D |
| 5 | 36 | .098 | 40 | 18 | 18 | .240 | B |
| 6 | 40 | .114 | 33 | 20 | 20 | .271 | I |
| 6 | 36 | .111 | 34 | 20 | 18 | .266 | 17/64 |
| 6 | 32 | .108 | 36 | 22 | 18 | .292 | L |
| 7 | 36 | .124 | 1/8 | 22 | 16 | .285 | 9/32 |
| 7 | 32 | .121 | 31 | 24 | 18 | .318 | O |
| 7 | 30 | .119 | 31 | 24 | 16 | .311 | 5/16 |
| 8 | 36 | .137 | 29 | 26 | 16 | .337 | R |
| 8 | 32 | .134 | 29 | 26 | 14 | .328 | 21/64 |
| 8 | 30 | .132 | 30 | 28 | 16 | .363 | 23/64 |
| 9 | 32 | .147 | 26 | 28 | 14 | .354 | T |
| 9 | 30 | .145 | 27 | 30 | 16 | .389 | 25/64 |
| 9 | 24 | .136 | 29 | 30 | 14 | .380 | V |

# Tap Drill Sizes *For Fractional Size Threads*

## 75% Depth Thread

### AMERICAN NATIONAL THREAD FORM

| Tap Size | Threads per Inch | Diam. Hole | Drill |
|---|---|---|---|
| 1/16 | 72 | .049 | 3/64 |
| 1/16 | 64 | .047 | 3/64 |
| 1/16 | 60 | .046 | 56 |
| 5/64 | 72 | .065 | 52 |
| 5/64 | 64 | .063 | 1/16 |
| 5/64 | 60 | .062 | 1/16 |
| 5/64 | 56 | .061 | 53 |
| 3/32 | 60 | .077 | 5/64 |
| 3/32 | 56 | .076 | 48 |
| 3/32 | 50 | .074 | 49 |
| 3/32 | 48 | .073 | 49 |
| 7/64 | 56 | .092 | 42 |
| 7/64 | 50 | .090 | 43 |
| 7/64 | 48 | .089 | 43 |
| 1/8 | 48 | .105 | 36 |
| 1/8 | 40 | .101 | 38 |
| 1/8 | 36 | .098 | 40 |
| 1/8 | 32 | .095 | 3/32 |
| 9/64 | 40 | .116 | 32 |
| 9/64 | 36 | .114 | 33 |
| 9/64 | 32 | .110 | 35 |
| 5/32 | 40 | .132 | 30 |
| 5/32 | 36 | .129 | 30 |
| 5/32 | 32 | .126 | 1/8 |
| 11/64 | 36 | .145 | 27 |
| 11/64 | 32 | .141 | 9/64 |
| 3/16 | 36 | .161 | 20 |
| 3/16 | 32 | .157 | 22 |
| 3/16 | 30 | .155 | 23 |
| 3/16 | 24 | .147 | 26 |
| 13/64 | 32 | .173 | 17 |
| 13/64 | 30 | .171 | 11/64 |
| 13/64 | 24 | .163 | 20 |
| 7/32 | 32 | .188 | 12 |
| 7/32 | 28 | .184 | 13 |
| 7/32 | 24 | .178 | 16 |
| 15/64 | 32 | .204 | 6 |
| 15/64 | 28 | .200 | 8 |
| 15/64 | 24 | .194 | 10 |
| 1/4 | 32 | .220 | 7/32 |
| 1/4 | 28 | .215 | 3 |
| 1/4 | 27 | .214 | 3 |
| 1/4 | 24 | .209 | 4 |
| 1/4 | 20 | .201 | 7 |
| 5/16 | 32 | .282 | 9/32 |
| 5/16 | 27 | .276 | J |
| 5/16 | 24 | .272 | I |
| 5/16 | 20 | .264 | 17/64 |
| 5/16 | 18 | .258 | F |
| 3/8 | 27 | .339 | R |
| 3/8 | 24 | .334 | Q |
| 3/8 | 20 | .326 | 21/64 |
| 3/8 | 16 | .314 | 5/16 |
| 7/16 | 27 | .401 | Y |
| 7/16 | 24 | .397 | X |
| 7/16 | 20 | .389 | 25/64 |
| 7/16 | 14 | .368 | U |
| 1/2 | 27 | .464 | 15/32 |
| 1/2 | 24 | .460 | 29/64 |
| 1/2 | 20 | .451 | 29/64 |
| 1/2 | 13 | .425 | 27/64 |
| 1/2 | 12 | .419 | 27/64 |
| 9/16 | 27 | .526 | 17/32 |
| 9/16 | 18 | .508 | 33/64 |
| 9/16 | 12 | .481 | 31/64 |
| 5/8 | 27 | .589 | 19/32 |
| 5/8 | 18 | .571 | 37/64 |
| 5/8 | 12 | .544 | 35/64 |
| 5/8 | 11 | .536 | 17/32 |
| 11/16 | 16 | .627 | 5/8 |
| 11/16 | 11 | .599 | 19/32 |
| 3/4 | 27 | .714 | 23/32 |
| 3/4 | 16 | .689 | 11/16 |
| 3/4 | 12 | .669 | 43/64 |
| 3/4 | 10 | .653 | 21/32 |
| 13/16 | 12 | .731 | 47/64 |
| 13/16 | 10 | .715 | 23/32 |
| 7/8 | 27 | .839 | 27/32 |
| 7/8 | 18 | .821 | 53/64 |
| 7/8 | 14 | .805 | 13/16 |
| 7/8 | 12 | .794 | 51/64 |
| 7/8 | 9 | .767 | 49/64 |
| 15/16 | 12 | .856 | 55/64 |
| 15/16 | 9 | .829 | 53/64 |
| 1 | 27 | .964 | 31/32 |
| 1 | 14 | .930 | 15/16 |
| 1 | 12 | .919 | 59/64 |
| 1 | 8 | .878 | 7/8 |
| 1 1/16 | 8 | .941 | 15/16 |
| 1 1/8 | 12 | 1.044 | 1 3/64 |
| 1 1/8 | 7 | .986 | 63/64 |
| 1 3/16 | 7 | 1.048 | 1 3/64 |
| 1 1/4 | 12 | 1.169 | 1 11/64 |
| 1 1/4 | 7 | 1.111 | 1 7/64 |
| 1 5/16 | 7 | 1.173 | 1 11/64 |
| 1 3/8 | 12 | 1.294 | 1 19/64 |
| 1 3/8 | 6 | 1.213 | 1 7/32 |
| 1 1/2 | 12 | 1.419 | 1 27/64 |
| 1 1/2 | 6 | 1.338 | 1 11/32 |
| 1 5/8 | 5 1/2 | 1.448 | 1 29/64 |
| 1 3/4 | 5 | 1.555 | 1 9/16 |
| 1 7/8 | 5 | 1.680 | 1 11/16 |
| 2 | 4 1/2 | 1.783 | 1 25/32 |
| 2 1/8 | 4 1/2 | 1.909 | 1 29/32 |
| 2 1/4 | 4 1/2 | 2.034 | 2 1/32 |
| 2 3/8 | 4 | 2.131 | 2 1/8 |
| 2 1/2 | 4 | 2.256 | 2 1/4 |
| 2 5/8 | 4 | 2.381 | 2 3/8 |
| 2 3/4 | 4 | 2.506 | 2 1/2 |
| 2 7/8 | 3 1/2 | 2.597 | 2 19/32 |
| 3 | 3 1/2 | 2.722 | 2 23/32 |
| 3 1/8 | 3 1/2 | 2.847 | 2 27/32 |
| 3 1/4 | 3 1/2 | 2.972 | 2 31/32 |
| 3 3/8 | 3 1/4 | 3.075 | 3 1/16 |
| 3 1/2 | 3 1/4 | 3.200 | 3 3/16 |
| 3 5/8 | 3 1/4 | 3.325 | 3 5/16 |
| 3 3/4 | 3 | 3.425 | 3 7/16 |
| 4 | 3 | 3.675 | 3 11/16 |

# Decimal Equivalents of Number Size Drills

| No. | Size of Drill in Inches | No. | Size of Drill in Inches | No. | Size of Drill in Inches | No. | Size of Drill in Inches |
|---|---|---|---|---|---|---|---|
| 1 | .2280 | 21 | .1590 | 41 | .0960 | 61 | .0390 |
| 2 | .2210 | 22 | .1570 | 42 | .0935 | 62 | .0380 |
| 3 | .2130 | 23 | .1540 | 43 | .0890 | 63 | .0370 |
| 4 | .2090 | 24 | .1520 | 44 | .0860 | 64 | .0360 |
| 5 | .2055 | 25 | .1495 | 45 | .0820 | 65 | .0350 |
| 6 | .2040 | 26 | .1470 | 46 | .0810 | 66 | .0330 |
| 7 | .2010 | 27 | .1440 | 47 | .0785 | 67 | .0320 |
| 8 | .1990 | 28 | .1405 | 48 | .0760 | 68 | .0310 |
| 9 | .1960 | 29 | .1360 | 49 | .0730 | 69 | .0292 |
| 10 | .1935 | 30 | .1285 | 50 | .0700 | 70 | .0280 |
| 11 | .1910 | 31 | .1200 | 51 | .0670 | 71 | .0260 |
| 12 | .1890 | 32 | .1160 | 52 | .0635 | 72 | .0250 |
| 13 | .1850 | 33 | 1130 | 53 | .0595 | 73 | 0240 |
| 14 | .1820 | 34 | .1110 | 54 | .0550 | 74 | .0225 |
| 15 | .1800 | 35 | .1100 | 55 | .0520 | 75 | .0210 |
| 16 | .1770 | 36 | .1065 | 56 | .0465 | 76 | .0200 |
| 17 | .1730 | 37 | .1040 | 57 | .0430 | 77 | .0180 |
| 18 | .1695 | 38 | .1015 | 58 | .0420 | 78 | .0160 |
| 19 | .1660 | 39 | .0995 | 59 | .0410 | 79 | .0145 |
| 20 | .1610 | 40 | .0980 | 60 | .0400 | 80 | .0135 |

# Decimal Equivalents of Letter Size Drills

| Letter | Size of Drill in Inches | Letter | Size of Drill in Inches |
|---|---|---|---|
| A | .234 | N | .302 |
| B | .238 | O | .316 |
| C | .242 | P | .323 |
| D | .246 | Q | .332 |
| E | .250 | R | .339 |
| F | .257 | S | .348 |
| G | .261 | T | .358 |
| H | .266 | U | .368 |
| I | .272 | V | .377 |
| J | .277 | W | .386 |
| K | .281 | X | .397 |
| L | .290 | Y | .404 |
| M | .295 | Z | .413 |

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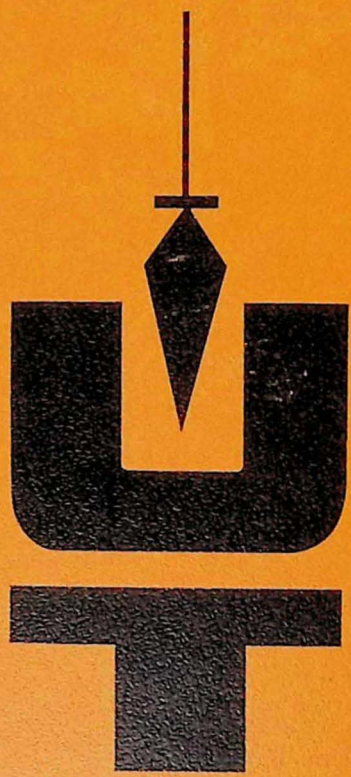

MACHINISTS' TOOLS
CARPENTERS' TOOLS